

**CLEAN HARBORS COLFAX, LLC
COLFAX, LOUISIANA**

**Responses to 6/22/05 Notice of Deficiencies
and
Supplemental Information
for the
RCRA Hazardous Waste Permit Renewal Application**

Prepared for:

**Clean Harbors Colfax, LLC
3763 Highway 471
Colfax, Louisiana 71417**

**Agency Interest #32096
LAD 981055791**

AUGUST 2005

MAIN FILE



August 22, 2005

Via Federal Express

Mr. Lenny Young, Administrator
Louisiana Department of Environmental Quality
Office of Environmental Services/Permits Division
602 N. Fifth Street
Baton Rouge, Louisiana 70802

**Subject: Responses to 06/22/05 Notice of Deficiencies
Hazardous Waste Permit Renewal Application
Clean Harbors Colfax, LLC
LAD 981 055 791
LDEQ Agency Interest Number 32096 ✓**

Attention: Ms. Karla Vidrine

Dear Mr. Young:

In response to the Department's June 22, 2005 Notice of Deficiency (NOD) related to the revised Hazardous Waste Permit Application that was submitted to the Department on August 13, 2003, please find attached four (4) complete bound copies of the facility's responses. This letter, along with the attached appendices, should be considered as supplemental and/or revised information to complement the previous application. Please note that the only drawings included in Appendix B are those that were modified for this submittal. All others that were in the previous application submittal remain a part of the pending application. The facility has included below an itemized listing of each deficiency identified by the Department (listed below in *italics*), followed by the facility's response in **bold**.

LAC 33:V.517.T.5.a

The Applicant has not provided the required documentation for the absence of recreational areas within 1,000 feet of the site. The Applicant cannot survey the site with site personnel and state that there are no recreational areas known at the facility within 1,000 feet of the active site. Documentation from the Louisiana Office of State Parks must be provided.

Clean Harbors Colfax, LLC
3763 Highway 471 Colfax, LA 71417 (318) 627-3443

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After multiple requests for this documentation from the Louisiana Office of State Parks, the facility received the attached letter, which should be included as an addendum to Appendix P. In addition, as shown on Drawing 117 the facility is only permitting approximately 43 acres located within an approximately 600 acre tract of land owned by Clean Harbors Colfax, LLC. The nearest Clean Harbors property line is located within approximately 500 feet in the southeast direction. The adjacent property in this direction is timberland owned by International Paper Company. Clean Harbors property lines in the other directions are more than 1000 feet from the 40 acre permitted area. No public recreational areas are located on the Clean Harbors owned properties. These facts were the basis of the facility's previous assertion that there were no recreational areas present within 1,000 feet of the site.

LAC 33:V.517.T.7.b

An explanation of the temporary storage must be provided. Referencing the Ash Management SOP is not a sufficient response. The Applicant must provide a brief summary detailing the information requested in the deficiency.

The area on-site that is routinely used for less than 90-day storage (i.e., temporary) is the truck parking/staging area. When the site generated waste is determined to be nonhazardous, no specific time limit for storage is applicable; however, the facility will generally ship nonhazardous wastes off-site within 90 days of generation.

The Applicant's response state that the ash is site generated and is "typically" nonhazardous and may be stored anywhere on-site but it is usually stored within the truck staging area. A designated area designed and operated as nonhazardous ash storage and hazardous ash storage must be established.

The facility "stores" its site generated ash waste, along with other materials such as recyclable metals, in the truck parking/staging area. Each roll-off container of site generated ash waste is analyzed to determine whether or not it is hazardous. If it is hazardous, the time limit for staging the waste in this area is 90 days, but the facility does not have a different building for staging nonhazardous site generated wastes, and there are no current plans to build one. Each container of waste will be clearly marked as to its contents to allow for easy identification upon inspection.

The ash residue should not be stored "anywhere" on-site. The Applicant must provide an explanation of the designated ash residue storage area(s) (e.g., location, capacity, types of storage, etc.).

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As mentioned above, the facility's designated area for bulk storage of site generated ash residue is the truck staging/parking area. From time to time, the facility will store small containers (such as drums) of site generated ash waste in the permitted storage area at the rear of the preparation building.

A description of the burn pans should be provided. Referencing a section or a page number in the application where the information can be found is not a sufficient response.

The thermal treatment units consist of twenty (20) concrete curbed treatment pads atop the slab, each equipped with an interchangeable burner assembly. The burner assemblies consist either of an open steel pan or a steel-lined concrete burn chamber. The open steel pans are constructed of 3/16-inch (minimum thickness) steel with eight-inch high sidewalls. The concrete burn chambers are constructed of 48-inch (inside diameter) reinforced concrete pipe. They are three feet in length, and equipped with a 14-gauge steel cover plate. Each of the treatment units is equipped with a retractable roof structure to prevent rainfall accumulation.

The Applicant did not provide an explanation of the decontamination procedures for the equipment used during operations (e.g., ash removal, etc.) This information should be provided.

Since the facility typically utilizes a fork lift to remove the burner pans from the treatment pad, the equipment does not normally come into contact with the waste, so it would not become contaminated. However, in the event that the ash came into contact with the forks of the fork lift, it would be wiped clean, and the paper used to wipe it clean would be disposed along with the ash.

LAC 33:V.517.T.7.b.ii The Applicant did not explain how ash from burn pans 6-10 and 16-20 will be collected and disposed of (e.g., at a hazardous waste permitted facility). Referencing the Ash Management Plan SOP is not a sufficient response. A brief explanation must be provided.

When the facility receives hazardous wastes that include listed EPA waste codes, it is managed in one of these burn pans (6-10 or 16-20). Typically, materials managed in these burn pans are received in very small amounts (i.e., small containers) that generate very limited amounts of ash. This ash is placed into a properly marked drum directly on the burn pad. The ash may be removed using a tool such as a shovel or the burn pan may be manually picked up (after a cool-down period) and dumped over into the drum. Then the container is taken to the storage area at the rear of the Preparation Building where it remains until it is shipped off-site for disposal.

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A description of the burn pans should be provided. Referencing a section or a page number in the application where the information can be found is not a sufficient response.

The thermal treatment units consist of twenty (20) concrete curbed treatment pads atop the slab, each equipped with an interchangeable burner assembly. The burner assemblies consist either of an open steel pan or a steel-lined concrete burn chamber. The open steel pans are constructed of 3/16-inch (minimum thickness) steel with eight-inch high sidewalls. The concrete burn chambers are constructed of 48-inch (inside diameter) reinforced concrete pipe. They are three feet in length, and equipped with a 14-gauge steel cover plate. Each of the treatment units is equipped with a retractable roof structure to prevent rainfall accumulation.

The Applicant did not provide an explanation of the decontamination procedures for the equipment used during operations (e.g., ash removal, etc.) This information should be provided.

Since the facility typically utilizes a fork lift to remove the burner pans from the treatment pad, the equipment does not normally come into contact with the waste, so it would not become contaminated. However, in the event that the ash came into contact with the forks of the fork lift, it would be wiped clean, and the paper used to wipe it clean would be disposed along with the ash.

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When the facility receives hazardous wastes that include listed EPA waste codes, it is managed in one of these burn pans (6-10 or 16-20). Typically, materials managed in these burn pans are received in very small amounts (i.e., small containers) that generate very limited amounts of ash. This ash is placed into a properly marked drum directly on the burn pad. The ash may be removed using a tool such as a shovel or the burn pan may be manually picked up

(after a cool-down period) and dumped over into the drum. Then the container is taken to the storage area at the rear of the Preparation Building where it remains until it is shipped off-site for disposal. Any listed wastes that are accumulated on-site from this process will be managed at an appropriately permitted off-site hazardous waste facility such as a RCRA landfill or RCRA incineration unit.

LAC 33.V.517.T.b.iii.(a) In accordance with the picture dated 12/1/04 in the application and referenced in the responses to NODs, two roll-off boxes of nonhazardous materials (i.e., empty and/or containing ash) are being stored in the truck bays. The Applicant must explain the truck staging/parking area's capacity to stage four trucks and several roll-off boxes of nonhazardous materials in the truck bays.

The building is approximately 107 feet long and 64 feet wide. It is divided into four sections that can easily hold two or more rolloff boxes and four or more trucks, when necessary.

LAC 33:V.521.A.1 The Applicant's response that "the preparation building is further described later in this section" is not a sufficient response. A brief description must be provided in addition to referencing a section of the application for more information.

The preparation building is approximately 40 feet wide by 40 feet long in plan area with a concrete apron at the entrance. The preparation building is supplied with electric power to operate the drill press and band saw used for preparation activities. All electrical switches, motors, controls, and lights conform to the requirements of Class II, Division 2 of the National Electric Code. A container storage area for hazardous ash is located at the rear of the preparation building. This area measures approximately 18 feet wide by 60 feet long in plan with a 6" high berm to provide secondary containment. Generally, the only hazardous ash stored in this area will be the minimal amounts of ash collected from the treatment of wastes that include listed waste codes (F, P, K, or U codes) since the treatment process typically removes any characteristically hazardous constituents. Otherwise, the facility may store some wastes in this area that are not required by ATF to be stored in the storage magazines (such as fireworks received from off-site).

The Preparation Building includes three (3) specially equipped booths that are designed for the disassembly of various devices prior to their thermal treatment. These booths measure approximately 8 feet by 8 feet and are surrounded by thick wood that is designed to prevent damage to the building or injury to employees in the event of an inadvertent detonation. The cutting equipment inside each compartment is also remotely controlled to further enhance the safety of the employees. The process of disassembling the material (particularly the munitions type waste) makes the material safer to handle and more amenable to the treatment process. The Preparation Building has been added to the Part A/I application as X02 (miscellaneous

unit) for decontainerizing and/or disassembling the devices in preparation for final treatment thermally. The capacity is 350 pounds per hour (Net Explosive Weight).

The Applicant must explain if the area at the rear of the preparation building used for storage of hazardous waste meets all the requirements for container storage.

A container storage area for hazardous ash is located at the rear of the preparation building. This area measures approximately 18 feet wide by 60 feet long in plan with a 6" high berm to provide secondary containment. The area meets the requirements of the container storage regulations. This area is further discussed on page 5-43 of the August 2003 renewal application.

LAC 33:V.521.A.4-5

A detailed description and explanation of the hazardous ash "kept" in a designated area at the preparation building must be provided. Page 5-46 of the application does not explain the size, location, capacity, operational procedures, etc. for the storage of the hazardous ash residue (e.g., containerized storage, etc.).

Generally, the only hazardous ash stored in this area will be the minimal amounts of ash collected from the treatment of wastes that include listed waste codes (F, P, K, or U codes) since the treatment process typically removes any characteristically hazardous constituents. This ash will be stored in properly marked drums/containers. As described in the Part A application, this area's permitted capacity is 60 cubic yards. This area measures approximately 18 feet wide by 60 feet long in plan with a 6" high berm to provide secondary containment.

LAC 33:V.1511.C.3

The Applicant's response to the deficiency is not sufficient. In addition to referencing the Contingency Plan, a brief explanation of the decontamination equipment should be provided.

Employees will utilize the equipment listed as needed to ensure that any impacted areas that become contaminated are properly decontaminated. If there is a liquid spill onto a concrete area, the spilled material will be covered with absorbent and then cleaned up using shovels, brooms, or other tools as appropriate. Spills of solid materials onto concrete areas will be removed using brooms, shovels, or other appropriate tools. Concrete areas may be pressure washed to remove any remaining residues if necessary. Any spills that occur outside of containment areas will be removed by over-excavating until all visible waste is removed.

All personnel who handle waste materials will utilize the proper PPE to minimize direct contact with waste. In the event of direct contact with waste, the employee will utilize the eye wash units or other water sources to remove contaminants.

All clean up materials and used PPE will be properly disposed in accordance with state and federal hazardous waste management regulations.

As detailed in the Contingency Plan (Appendix I), the following equipment is available at the facility and may be utilized to assist with any decontamination that may be necessary.

<u>Quantity</u>	<u>Equipment</u>	<u>Location(s)</u>	<u>Capability</u>
6	First Aid Kits	Administrative Office Prep Building Pickup Trucks	This equipment intended for minor injuries only.
3	Utility Vehicles	Mobile	Emergency transport
2	Eyewash	Preparation and Maintenance Building	To remove chemical contaminants if needed.
1	Pressure Washer	Maintenance Building	To clean off any contaminated equipment

Protective Equipment

The following protective equipment is available in the Preparation Building and/or the Control Room for Clean Harbors Colfax, LLC employees during a hazardous waste emergency.

Disposable suits (Tyveks)
Hard hats
Cartridge air purifying respirators (full-face)
Appropriate Cartridges for Respirators
Gloves with chemical protection
Rubber boots with chemical protection
Safety goggles and glasses
Flame Retardant Clothing
Face Shields

LAC 33:V.1511.G.1.a-d The Applicant's response to the deficiency is not sufficient. In addition to referencing the Contingency Plan, a brief description of how local law enforcement, fire departments, and emergency response teams are familiarized with the layout of the facility, the waste handled at the facility, hazards associated with the waste, roads, evacuation routes, etc. must be provided.

The facility sends copies of the Contingency Plan and all amendments to the appropriate agencies. They are supplied with detailed maps and drawings of the facility. Each of these agencies also has an open invitation to visit the site to become more familiar with it, and periodically, personnel from these local agencies visit the site to become more familiar with the layout of the facility, the wastes handled, and other pertinent aspects of the facility. More detailed information concerning these arrangements is included in the Contingency Plan (Appendix I).

General Comment Referencing a plan, appendix or previous responses are not sufficient responses. The Applicant must provide a brief summary of the information requested in addition to referencing additional information.

In response to this Notice of Deficiency, the facility has attempted to provide more detailed responses in the form of both a brief summary of the appropriate information as well as a reference to other areas of the permit application, as appropriate.

LAC 33:V.1513.B.6 The Applicant's response to the deficiency is not sufficient. In addition to referencing the Contingency Plan, an explanation of the procedures for an evacuation as ordered by the emergency coordinator must be provided.

An evacuation plan has been developed for use in emergency situations when personnel must leave a portion of the plant due to a danger to human health. Sufficient aisle space is maintained at the facility to allow unobstructed movement of personnel, fire protection equipment and decontamination equipment to any area of the facility. Clean Harbors Colfax, LLC personnel will be notified to evacuate the facility via two-way radios in the event an emergency situation warrants evacuation. Employees shall leave the plant through the exit gate and proceed to the administrative office building. This point was selected as the primary rendezvous area, and it is sufficiently large enough to accommodate a mass exit of the entire work force. The entrance gate to the burn site has been chosen as a secondary rendezvous area. Figure 3 provides a diagram of the primary and secondary evacuation routes and rendezvous point.

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Upon arrival at the rendezvous point, all supervisors will locate those employees assigned to their area. Missing employees will be reported to the Emergency Coordinator. The guard will proceed to the rendezvous point with the visitor sign-in logbook noting the on-site visitors. Any missing visitor will be reported to the Emergency Coordinator.

Although the facility does not anticipate that its operations could ever necessitate any evacuations of the surrounding community, if the situation warrants, the facility will coordinate any external evacuations with the Grant Parish Sheriff's Department who will notify any surrounding residents of the need to evacuate. Due to the size of the facility and the wooded buffer zone surrounding the property, it is unlikely that any such evacuation will ever be needed.

This information, along with other details such as the evacuation map that shows the evacuation routes, is included in the Contingency Plan (Appendix I).

General Comment *The contingency plan must list all the waste codes in the Part A permit application.*

The plan includes the list of waste codes on page 6 of the Contingency Plan (Appendix I). Additional information concerning these waste codes is included, as requested by the Department. The list of codes is included below:

10. Description of Hazardous Wastes (Continued: use additional sheets as necessary)														
Line Number	A. EPA Hazardous Waste No. (Enter code)				B Estimated Annual Quantity of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES							
	(1) PROCESS CODES (Enter code)													
1	D	0	0	1	480,000	P	S	0	1	X	0	1		
2	D	0	0	2	480,000	P	S	0	1	X	0	1		
3	D	0	0	3	480,000	P	S	0	1	X	0	1		
4	D	0	0	4	480,000	P	S	0	1	X	0	1		
5	D	0	0	5	480,000	P	S	0	1	X	0	1		
6	D	0	0	6	480,000	P	S	0	1	X	0	1		
7	D	0	0	7	480,000	P	S	0	1	X	0	1		
8	D	0	0	8	480,000	P	S	0	1	X	0	1		
9	D	0	1	0	480,000	P	S	0	1	X	0	1		

1	0	D	0	1	1	480,000	P	S	0	1	X	0	1					
1	1	D	0	3	0	480,000	P	S	0	1	X	0	1					
1	2	K	0	4	4	480,000	P	S	0	1	X	0	1					
1	3	K	0	4	5	480,000	P	S	0	1	X	0	1					
1	4	K	0	4	6	480,000	P	S	0	1	X	0	1					
1	5	P	0	0	9	480,000	P	S	0	1	X	0	1					
1	6	P	0	4	8	480,000	P	S	0	1	X	0	1					
1	7	P	0	6	5	480,000	P	S	0	1	X	0	1					
1	8	P	0	8	1	480,000	P	S	0	1	X	0	1					
1	9	P	1	0	5	480,000	P	S	0	1	X	0	1					
2	0	P	1	1	2	480,000	P	S	0	1	X	0	1					
2	1	U	0	6	9	480,000	P	S	0	1	X	0	1					
2	2	U	0	8	8	480,000	P	S	0	1	X	0	1					
2	3	U	0	9	6	480,000	P	S	0	1	X	0	1					
2	4	U	1	0	5	480,000	P	S	0	1	X	0	1					
2	5	U	1	0	8	480,000	P	S	0	1	X	0	1					
2	6	U	1	1	5	480,000	P	S	0	1	X	0	1					
2	7	U	1	1	7	480,000	P	S	0	1	X	0	1					
2	8	U	1	3	3	480,000	P	S	0	1	X	0	1					
2	9	U	1	6	0	480,000	P	S	0	1	X	0	1					
3	0	U	2	3	4	480,000	P	S	0	1	X	0	1					

LAC 33:V.1513.F.5

The Applicant's response to the deficiency is not sufficient. A detailed explanation of the emergency procedures should be provided in addition to referencing the Contingency Plan for additional information.

The Emergency Coordinator or alternate is responsible for insuring that the Contingency Plan is implemented during an emergency situation and has complete authority from Clean Harbors Colfax, LLC to commit funds necessary to carry out any emergency procedure. The Emergency Coordinator determines, by report or actual observation, if an emergency exists at the hazardous waste facility. If an emergency exists, the Emergency Coordinator has the responsibility to:

1. Activate communication system to notify all plant personnel;
2. Notify appropriate emergency response and regulatory agencies;
3. Immediately identify the character, exact source, amount and extent of area of any released materials;
4. Assess hazard to human health or the environment due to direct and indirect effects of any toxic, irritating or asphyxiating gases that are generated or the effects of any hazardous surface waste run-off from water or chemical agents used to control fire and heat-induced explosions.
5. If the Emergency Coordinator believes the emergency could threaten human health or the environment outside Clean Harbors Colfax, LLC property, he must immediately:

Notify the Louisiana Department of Environmental Quality Emergency Response Section and provide his name and telephone number, the name and address of the facility, time and type of incident, name and quantity of material(s) involved, the extent of injuries, if any, and the possible hazards to human health or the environment outside the plant. If evacuation of local areas may be advisable, immediately notify the appropriate local authorities;

6. Implement all measures necessary to ensure that fires, explosions and releases do not occur or spread to other hazardous wastes at the plant. These measures may include stopping operations, collecting and containing released waste and removing or isolating containers;
7. If the plant stops operation in response to a fire, explosion or release, take measures necessary to monitor the facility;
8. Directly following the emergency, provide for the treatment, storage or disposal of recovered waste, contaminated soil, surface water or other contaminated material resulting from the emergency;
9. Ensure that clean-up is complete before managing any waste that may be incompatible with the released waste;
10. Insure that all emergency equipment is cleaned and fit for use before

operations are resumed.

After the emergency, the Emergency Coordinator is responsible for certain reporting requirements. The Louisiana Department of Environmental Quality and appropriate state and local authorities must be notified that the plant is in compliance before operations are resumed. It must be noted in the Clean Harbors Colfax, LLC operating record the time, date and details of the emergency. Also, within 15 days of an emergency requiring implementation of the Contingency Plan, a written report must be submitted to the Louisiana Department of Environmental Quality which includes the following information:

1. Name, address and telephone number of owner;
2. Name, address and telephone number of plant;
3. Date, time and type of incident;
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where applicable, and;
7. Estimated quantity and disposition of recovered material that resulted from the emergency.

Other details concerning the emergency procedures are included in the Contingency Plan (Appendix I).

LAC 33:V.1515.A.3 &
LAC 33:V.1517.B.1

The Applicant's response to the deficiency is not sufficient. An explanation of the emergency procedures, prevention and preparedness, training, PPE and any applicable special requirements for any possible threat to human health when handling waste and emergencies, where the waste produces toxic gases when decomposing or being treated must be provided. Referencing a previous response, section or page is not a sufficient response.

During waste management operations, the facility takes precautions to minimize the threat to human health and the environment. Wastes that could yield toxic gases when burned will be

burned in small quantities to minimize a threat to human health. Also, the temperature during treatment of the wastes is maintained as low as possible by burning small quantities of waste at a particular time to minimize the potential for an uncontrolled burn. A slow burning, low volatile fuel, such as diesel, is used to assist in the burning process. The burners are open and well ventilated to eliminate development of extreme heat or pressures and to minimize the potential for violent reactions. The minimization of the potential for a violent reaction during treatment is accomplished by only burning small quantities of wastes at a given time. All employees are required to maintain a safe distance from the burn pad while the thermal treatment process is occurring.

LAC 33:V.2111.B.2

The Applicant's response to the deficiency is not sufficient. An explanation of the storage of ash in roll-off containers must be provided. The Applicant must provide an explanation of the types of storage, the location of storage areas and the disposal of the ash.

The ash referred to in the response to this comment is the ash that is generated on-site as a result of the treatment activities. As stated previously, this ash is typically accumulated in the truck parking/staging area. The base of the containment system is sloped toward the middle of the building such that any rainfall that may be blown into the building will be directed toward small sumps in the center of the building. The containers are elevated and kept closed so as to protect them from contact with any potential accumulated liquids. The ash is disposed off-site at an appropriately permitted facility.

If the ash is hazardous and stored on-site then the Applicant must provide an explanation of the storage and disposal. If the ash is stored less than 90 days, the activity is still regulated and the Applicant must provide an explanation of this type of storage. If the ash is non-hazardous and accumulated on-site, the Applicant must provide an explanation of the accumulation area(s).

The ash referred to in the response to this comment is the ash that is generated on-site as a result of the treatment activities. As stated previously, this ash is typically accumulated in the truck parking/staging area. The base of the containment system is sloped toward the middle of the building such that any rainfall that may be blown into the building will be directed toward small sumps in the center of the building. The containers are elevated and kept closed so as to protect them from contact with any potential accumulated liquids. The ash is disposed off-site at an appropriately permitted facility. This area meets all the requirements for generator storage.

General Comment

The Applicant must designate the areas of operation and be consistent with the identification of each area (i.e., consistency in the naming of each area) throughout the application.

The operational areas (as designated on Drawing No. 103) of the site are as follows:

Thermal Treatment Area-the area utilized for the thermal treatment of the wastes. The burn pans are located in this unit.

Preparation Building-this miscellaneous unit is used for the preparation (i.e., cutting, disassembling, etc.) of wastes prior to thermal treatment. The small section at the rear of the preparation building is a permitted storage area. This area measures approximately 18 feet wide by 60 feet long in plan with a 6" high berm to provide secondary containment. The area meets the requirements of the container storage regulations.

Storage Magazines-the 10 small units that are used for permitted storage of off-site wastes. Three of the magazines can be used to store containers of wastes that include liquids. The entrance to these three magazines is a covered area that may be referred to in the application as the liquid staging area.

Truck Parking/Staging Area-this area may be used to store site generated wastes (either hazardous or nonhazardous), empty containers, recyclable materials, and various supplies. In addition, the area may be used to temporarily stage incoming trucks that are awaiting unloading. Trucks staged in this area are unloaded within the next business day following arrival.

LAC 33:V.2403.A.1

The Applicant's response to the deficiency is not sufficient. An explanation of the potential for release of "waste by-products" must be provided. "Waste by-products" must be explained.

The term "waste by-products" was used as a generic term for any hazardous waste constituents, hazardous decomposition products, or contaminated run-off as referenced in the regulation. As described in the original response to this section, the containment system utilized by the facility is designed and operated to minimize the potential of a release of any of these constituents.

LAC 33:V.3203

The Applicant's response to the deficiency is not sufficient. An explanation of the treatment process and operational procedures (i.e., equipment used to remove residue, PPE, safety procedures, inspection, etc.) should be provided in addition to referencing the Contingency Plan and the Inspection Plan. Also, when referencing information in the Applicant should provide the section and page number where the information can be found.

The thermal treatment area is constructed on an approximately 700 feet long by 130 feet wide reinforced concrete slab (6" thick). The thermal treatment unit consists of twenty (20) concrete curbed treatment pads atop the slab, each equipped with an interchangeable burner assembly. The treatment pads are approximately 50 feet apart. The burner assemblies consist either of an open steel pan or a steel-lined concrete burn chamber. The open steel pans are constructed of 3/16-inch (minimum thickness) steel with approximately eight-inch high sidewalls. The concrete burn chambers are constructed of 48-inch (inside diameter) reinforced concrete pipe. They are four feet in height, and equipped with a steel mesh cover. Each of the treatment units is equipped with a retractable roof structure to prevent rainfall accumulation.

Security, communications, onsite emergency equipment, and procedures are described in Section 1513 of the Part B permit application. Facility personnel utilize PPE such as tyvek suits, hard hats, gloves, respiratory protection, face shields, safety goggles, and flame retardant clothing, as appropriate depending upon the functions being undertaken.

Wastes are transferred from the storage area to the preparation building located adjacent to the treatment units using a utility vehicle and trailer. The wastes are loaded and unloaded from the trailer by appropriate means considering the type of material being unloaded.

The waste is opened and prepared to facilitate combustion and placed in a compatible container. The wastes are placed in the burners and soaked with diesel fuel. Diesel fuel is a low-volatile, slow burning fuel that helps to control the combustion process. The slow burning process also helps to prevent the potential of a vigorous explosion that might otherwise cause the waste to escape the unit. The amount of waste to be burned in each unit varies and is dependent on the nature of a given waste material, but precise records are maintained in the operating record as to the amounts and types of wastes burned in each burner each operating day. Multiple units may be used simultaneously, but typically, only two or three are operated at any given time.

Each batch of waste requires approximately 7 to 8 minutes to burn. The maximum temperature obtained during the treatment process is achieved at a temperature of approximately 2,400 degrees Fahrenheit in a non-controlled air feed environment such as open trough burning. After approximately 40 minutes, the cooled treatment residues are visually inspected to ensure they do not contain untreated waste. Subsequently, they are removed from the burners, and placed in appropriate containers until they are shipped offsite for disposal at a proper facility. The residues will be separated according to whether or not the waste was treated in burners designated for characteristic waste or burners designated for listed waste.

The inspection schedule for the treatment units as well as the support facilities is presented in Appendix H (revised in the responses to 09/28/04 NOD). The schedule is designed to permit a timely response to prevent or minimize potential malfunctions that could result from such factors as deterioration with age or improper operation. The goal in preparing the inspection schedule

is to ensure that all operating and emergency equipment, structures, and systems are functioning and can be relied on, particularly in an emergency situation.

The schedules contain the frequency of inspection or maintenance activity, the item of equipment and the component of that equipment item that needs to be examined in addition to a general inspection. The inspection and maintenance schedules, results, and repair records will become part of the operating record.

Potential hazardous material release would be associated with spilling untreated wastes outside containment areas or treatment process areas. Spills in these areas would most likely occur during handling by facility personnel. Such spills are addressed by 1) visual inspections of these areas each time they are used and 2) collecting all observed spilled wastes for immediate thermal treatment.

The threat to human health and the environment would be associated with the occurrence of an unplanned or uncontrolled fire or explosion at the facility. Such hazards are unlikely but could possibly occur from improper handling or storage of the wastes, improper use of onsite equipment, or equipment malfunction. The inspection and maintenance schedules are designed to minimize this potential by visually examining the treatment units; storage magazines; the containers of waste; onsite transfer equipment; tools used to prepare the wastes for treatment; emergency response equipment; communications; and other operating equipment. The frequency of the inspections and maintenance requirements are based on manufacturer's recommendations when available. All maintenance and repairs will be completed prior to any future processing of waste on impaired equipment to ensure proper functioning of equipment and systems at all times.

LAC 33:V.3203.A.1

The Applicant's response to the deficiency is not sufficient. An explanation of the volume, physical and chemical characteristics of the waste in the unit should be provided in addition to referencing other sections of the application for more information.

The wastes to be handled at the facility are those wastes exhibiting the characteristic of reactivity (D003), except for those wastes listed as reactive by reason of cyanide or sulfide content. In addition, the reactive wastes treated may also include other waste codes as indicated in the Part A/I application.

The facility's through put capacity is based on the air permit issued by LDEQ (480,000 pounds of net explosive weight per 12-month period or 350 pounds net explosive weight per hour.

The storage capacity of the facility is approximately 50,000 pound net explosive weight in the magazines with up to 60 cubic yards of this total in the storage area at the rear of the

preparation building. In addition, wastes on site could be in burners waiting to be ignited, on trucks waiting to be unloaded, or undergoing preparation for burning. The maximum net explosive weight of wastes on site considering storage and these handling steps is 55,950 pounds.

The physical and chemical characteristics of the wastes treated in the units during the trial burns are described in section 2.0 of the document entitled "Final Source Characterization Plan for the R&D Thermal Treatment System" prepared by ENSR, September 1990 (Appendix Y). This document provides a representative description of the wastes that will be treated in the units.

In regard to analysis of reactive waste, the Institute of Makers of Explosives made the following observation in their response to EPA comments (December 1988) on the RCRA Guidance Manual For Permitting Commercial Explosives Industry Open Burning/Open Detonation Facilities.

"A critical aspect of this guidance manual and in general regarding disposal of explosive waste in the explosives industry is the issue of safety. IME has generally made the conservative assumption that waste containing elements of explosive nature presents the risk of an explosion. IME is not aware of a test method, nor has EPA promulgated a test method, that determines reactivity and that allows for a completely accurate determination of whether waste containing constituents of an explosive nature presents the risk of explosion upon disposal. It is such a risk that mandates the use of OB/OD since disposal through other means presents the risk of an explosion with a related threat to worker safety. The industry has always made worker protection the highest priority and would be very uncomfortable in departing from that position now."

The facility will gather sufficient information on incoming waste streams to allow proper storage and treatment without compromising worker safety. Chemical and physical analyses of each type of waste are generally provided by the generator. These analyses or analyses obtained from other reputable sources, such as the Department of Defense, will be referenced in the incoming waste records for each type of waste accepted at the facility. This information will become part of the operating record for the facility.

The waste analysis plan incorporates the following procedures:

- Each load of waste delivered to the facility will be visually inspected to verify the type and quantities of reactives listed on the shipping manifest.
- Profiles will be checked to verify the items received are accurately identified.

- Wastes that are not reactive, or cannot be correlated to a profile, will be rejected. Protocols described in the response to LAC 33:V.919 will be followed whenever this occurs.

The estimated emission rates of gases and particulates from treatment in the units are given in Appendix C (from the August 2003 Permit Renewal Application). Appendix Y provides a description of how the pollutant emission rates were estimated through a combination of ambient air monitoring and dispersion modeling. The air permit application contains calculations for estimating emissions of NO_x, CO and HCl.

Emission rates were below levels which would pose a potential hazard to human health via the atmospheric dispersion. Based upon this result the treatment units will not have a human health impact via groundwater or subsurface soil. However, hydrogeological features of the site were assessed through the groundwater assessment included in Appendix U.

The construction of the burner assemblies as previously described provides the necessary safeguards to minimize the entrance of rainwater and preclude surface run-on. Minimizing the entrance of rainwater, precluding run-on into the treatment process, and controlling runoff from the treatment area will insure that waste constituents are not transported to the ground water or subsurface environment. Furthermore, under the controlled burning methods used at the facility and based on the findings of the "Final Technical Support Document for the R&D Thermal Treatment System" dated April 1991 (Appendix Y), minimal potential for migration of treated residues as air particulates will minimize the potential for impacting the ground water. Certain burner assemblies are designated for the treatment of listed hazardous waste only. Ash remaining after treating listed waste is removed from the burner assembly and taken to a designated container for storage. These residues are shipped to a permitted hazardous waste disposal facility according to the original classification of the waste prior to thermal treatment. Residues generated from the thermal treatment of characteristic hazardous waste are stored in a separate container. These residues are subsequently analyzed to determine whether they exhibit a characteristic of a hazardous waste in accordance with the Waste Analysis Plan, and managed accordingly.

LAC 33:V.3203.A.1-5

In response to this deficiency the Applicant states that "The cover letter addressing this comment previously stated that the appropriate SW-846 methods would be used that only LDEQ certified laboratories would be utilized. The text refers to Appendix U for information about the groundwater flow." Clarification is needed. If a cover letter was previously submitted, it should be included as an appendix or attachment in the application or responses to NODs. If this information is provided in the application or responses to NODs, the Applicant must reference the location of this information (e.g., section, page number, etc.).

The cover letter was the letter explaining our answers to all the NOD's that accompanied the revised renewal application that was submitted to the Department in August 2003. The letter was dated August 13, 2003, and another copy is included herein (Attachment 1). The facility reiterates that it will utilize only laboratories that are LDEQ accredited for the constituents being tested.

LAC 33:V.3203.A.5

The Applicant's response to this deficiency is not sufficient. The Applicant states that Table 3 was a misprint in the revised application and should be removed. Table 3 was referenced in the response to LAC 33:V.3203.A.5, in the revised application, concerning information about the withdrawal rates of current and potential groundwater users. This information is not provided in Appendix B, Drawing 102 (Land Use Map) of the revised application. If the information is included in another section or drawing then the Applicant must include the location of this information.

The table that contains this information was included in Appendix F (August 2003 Permit Renewal Application) as Table 1. The reference to Table 3 was a typographical error.

LAC 33:V.3203.B.1-7

An explanation of the surface drainage from the site which enters stream segment 101301 Rigolette Bayou and the utilization of surface waters must be provided in addition to referencing sections of the application for more information.

This reference to Rigolette Bayou was from a previous application. At that time, this was the only named surface water body with water quality information. The surface drainage was accurately described in previous submittals and restated as follows:

The operations area is adjacent to the highest topographic point of the area, approximately 200 feet above mean sea level, with three primary drainage features discharging stormwater from the storage and treatment units. Discharge from the thermal treatment area flows into the retention pond and the retention pond drains north toward an intermittent stream that flows northwest. Additional tributaries converge into Summerfield Branch approximately 0.6 miles west of Highway 471. Reference Drawings No. 103 and 104.

The second drainage feature directs storm water flow from the western corner of the facility. This channel drains into Summerfield Branch west of Highway 471. The preparation building and four storage magazines are located in this area.

Storm water from the southeastern portion of the facility flows to an intermittent stream that flows into a wetland area near the property boundary. Some facility roads and five storage magazines drain into this natural channel.

The nearest named surface water body is Summerfield Branch, which is approximately 0.5 miles to the northwest from the site boundary. Summerfield Branch flows approximately 2 miles northwest into Bayou Grappe. Bayou Grappe meanders from northwest to southeast and eventually merges with Rigolette Bayou which flows into the Red River. No water quality data information could be found for Summerfield Branch and Bayou Grappe. The designated uses from LAC 33, Part IX, Section 1223, Table 3 for Rigolette Bayou (Segment 101301) from the headwaters to the Red River are primary and secondary contact recreation, propagation of fish and wildlife, and agriculture. Table 3 is attached as Appendix R.

Information on the Red River was obtained from the most recent Section 303(d) List of Impaired Water Requiring a TMDL (Total Maximum Daily Load). The final TMDL is due in 2007. This information is added to Appendix R of the application for reference. The Red River segment is 100101 and is 218 miles long. Designated uses are agriculture, drinking water supply, and primary and secondary contact recreation. The Red River is not used for drinking water in Colfax or the surrounding area. Suspected causes of impairment are mercury, metals and sulfates; the source is unknown. Surface water from the site will not affect water quality of the Red River since the water discharge from the retention pond and burn area is permitted and the remaining storm water only contacts natural site soils prior to run-off.

LAC 33:V.3203.C.1-5

The Applicant's response to the deficiency is not sufficient. The following information was still not provided:

- An explanation of the prevention of any releases and an explanation of the volume, physical and chemical characteristics of the waste in the unit including the potential for emissions and the dispersal of gases, aerosols, and particulates must be provided.*

The LDEQ's Air Quality Division has separately reviewed the potential for emissions from the site. The following is a summary of the permitted emissions in tons (net explosive weight) per year:

PM-10	2.4
NOx	38.9
VOC	0.16
CO	6.8
HCL	4.6

The facility maintains records to ensure that these emissions limits are not exceeded. The total volume of waste that the facility is permitted to treat (based on the air permit) is 480,000 pounds (net explosive weight) in any consecutive 12-month period. Again, the facility maintains records to ensure that it remains in compliance with this volume limit. There are also specific limits as to physical and chemical characteristics of the wastes treated as follows (in pounds per year):

Air Bag Initiators	50,000
Ammonium Perchlorate	30,000
Ammunition	200,000
Black Powder	10,000
RDX	40,000
Detonators/Blasting Caps	10,000
Flares and Flare Waste	100,000
High Explosives	10,000
HMX	10,000
PETN	10,000
TNT	80,000

It should be noted that the facility is not permitted to exceed a total of 480,000 pounds (net explosive weight) in any 12-month period of all wastes treated at the facility.

- In addition to referencing a section of the application for additional information, an explanation of the prevention of any releases that may have adverse effects on the existing quality of air, including other sources of contamination and their cumulative impact on the air must be provided.*

The facility thermally treats wastes in a manner that is consistent with minimizing any releases that may have adverse effects on the existing quality of air. In accordance with the air permit that was issued to the facility by LDEQ, the facility carefully restricts its burn rates to those limitations in the air permit. Further, the facility conducts its thermal treatment activities as "slow burn" process to avoid, to the extent possible, rapid detonations of materials. As discussed in other areas of the application, the facility uses diesel fuel, a slower burning substance to aid in the effort to prevent undesirable detonations.

The Air Emissions Human Health and Ecological Risk Assessment (Section V of the Environmental Assessment Report (Appendix U) Section 2 page 4 utilized an annual emissions rate of 239 tons/year (478,000 lbs.). Since the air permit allows treatment of 480,000 lbs. per year, the modeling calculations are still valid. The very conservative emission rates for metals

were over 6 times the maximum anticipated metals outputs per year. In addition to air emissions, deposition on soil and surface water, leaching to groundwater and the subsurface were also considered. The risk assessment indicated that there is no human health or ecological risk based on the modeled/actual emissions.

LAC 33:V.3511

The Applicant's response to the deficiency is not sufficient. A detailed response is required in addition to referencing a section of the application for specifics. The truck staging/parking area is referred to several times for multiple usages (e.g., storage of nonhazardous waste, less than 90 day hazardous waste storage, etc.). The area must be designated, labeled and consistent as to its permitted use throughout the permit.

The Applicant is not requesting to have this unit permitted for any use at this time. It was included merely for the sake of completion in order that the Department will have a better understanding of the building's use. As stated previously, the building may be utilized for temporary storage of nonhazardous materials, 90-day storage of hazardous site generated materials, empty container storage, etc. All containers of site-generated waste that may be present in the building will be labeled as required by the applicable regulations.

Drawing 101

The Applicant has failed to provide the official documentation for the absence of recreational areas within 1,000 feet of the site, in accordance with LAC 33:V.517.T.5.a. The facility's personnel walking the site and stating that no visible recreational areas are present is not sufficient. The Applicant must provide official documentation.

Appendix P includes the requested documentation from the Office of State Parks. It should be noted that since the facility is only permitting 43 acres of its more than 600-acre parcel, the facility actually owns a 1,000-foot boundary surrounding the permitted area with the exception of a small portion of wooded property that is not owned by the facility within 1,000 feet to the southeast of the permitted area. This fact was the basis of the facility's previous assertion that there were no recreational areas present within 1,000 feet of the site.

Drawing 102

See previous comment concerning the recreational areas.

The requested documentation is included as an addendum to Appendix P.

Appendix B
Drawings 103 & 104

The Applicant's response to the deficiency is not sufficient. The amount of pumpage, water level and water analysis from the well nearest the disposal site was not provided.

The water well information can be found on Drawing 104 and in Appendix F, Table 1. Based on a review of the DOTD records that are available for this area, the pumpage information for the well nearest the facility is not available.

The water well locations can be found on Drawing 104 and in Appendix F, Table 1. The closest well, G-392, is approximately 3,000 feet northwest of the site. The next closest well, G-393, is approximately 4,500 feet west of the site. Available records for these wells were obtained from the Louisiana Department of Transportation and Development (LDOTD) and United States Geological Survey (USGS). This information is added to Appendix R. The recorded flow rate from each is 150 gallons per minute. Recorded water levels below ground surface were 7 feet in G-392 and 33 feet in G-393. The sample results for both are summarized in a table in Appendix R.

LAC 33:V.517.B.4
Appendix B
Drawing 103

The Applicant's response to the deficiency is not sufficient. The Applicant's response of "Same as above" is not sufficient. The following information was not provided: A potentiometric surface map for aquifers within 100 feet of lowest elevation of disposal cells, or other facilities containing hazardous waste, from 1,000 feet upstream to 1,000 feet downstream, where practicable. Included should be a general map and cross sections showing the extent of freshwater sands, and the degree of isolation from waste sources by confining layers of clay.

Drawing 104 shows the surface water bodies within a 2-mile radius (and beyond) of the site. Cross sections were included as Drawings 114 and 115 in the August 2003 permit renewal application.

Appendix B
Drawing 104

The Applicant's response to the deficiency is not sufficient. The hazardous waste treatment, storage, and disposal units are not identified on the legend. The springs and other surface water bodies are not identified on the legend. This information must be provided.

Drawing 103 includes detailed information on each unit at the facility. This drawing (104) was intended to show the water well locations and their proximity to the facility. In addition, all surface water bodies are identified directly on the drawing. Water bodies are denoted by the blue color on the drawing.

*Appendix B
Drawing 105*

The Applicant states that there are no security cameras at the facility. Page 244 of the original operating permit, states that personnel and operations in the treatment and storage areas would be monitored by a video system. The cameras are pole mounted with audio pickups and equipped with zoom lenses for at least 50' away with a video monitor in the office. The Applicant must explain the changes in the security measures.

The facility does have cameras on-site currently; however, for purposes of this renewal application, the facility intends to rely on manned security at the gate. Video monitoring of personnel in the treatment and storage areas will no longer be utilized going forward.

*Appendix I
Contingency Plan*

The Contingency Plan must include decontamination procedures. The original Contingency Plan states that equipment used to collect hazardous waste and waste residues will be decontaminated using detergent washes followed by triple rinsing. All the washwater and rinsate from clean up of listed waste will be collected and shipped off for disposal. The Applicant did not explain this in the current Contingency Plan. An explanation of these practices must be provided.

All equipment that becomes contaminated during the collection of hazardous waste and waste residues will be decontaminated using the appropriate means (such as using detergent washes followed by triple rinsing, if appropriate). Any decontamination materials including wash waters and rinsate that become contaminated with listed wastes will be collected and shipped off-site to a properly permitted facility for disposal. This information has been added to page 20 of the revised Contingency Plan (Appendix I).

*Appendix I
Contingency Plan*

The Applicant's response to the deficiency is not sufficient. In the Applicant's response only the page number for the location of emergency contacts and phone numbers were provided. A description of the communication procedures for off-site emergency

assistance (e.g., who, how, etc.) must be provided in addition to referencing the Contingency Plan for more detailed information.

In the event of an emergency that requires off-site assistance, the Emergency Coordinator or his designee will contact, via telephone, one or more of the following organizations for assistance. The following table lists the organizations that can be contacted by the Emergency Coordinator in the event of an emergency.

<u>Emergency</u>	<u>Organization</u>	<u>Number</u>
Injury/Illness	Grant Medical Center Colfax, LA	318-627-3101
	Rapides Regional Hospital	318-473-3000
	Med Express Colfax, LA (ambulance/helicopter)	911
	Acadian Ambulance Alexandria, LA	911
Fire or Explosion	LDEQ Baton Rouge, LA	225-219-3181
	Grant Parish Sheriff	318-627-3261 or 911
	Colfax Volunteer Fire Dept	911
RQ Spill	Grant Parish LA Emergency Preparedness Committee	318-627-3261
	Louisiana State Police Hazardous Materials Unit	225-925-6925
	LDEQ	225-219-3181

*Appendix I
Contingency Plan*

The Applicant's response to the deficiency is not sufficient. The emergency procedures for bomb threats should be established and addressed in the Contingency Plan.

The facility has revised the Contingency Plan (page 15, Appendix I) to include bomb threat procedures as described below. In the event of a bomb threat, the facility will report it to the local law enforcement authorities for further investigation and recommendations as to the proper course of action. The facility has no documented occurrences of bomb threats to date. However, if there is a bomb threat, the Emergency Coordinator, in conjunction with the local authorities, will make a decision as to whether or not to evacuate. If the bomb threat is considered credible, outside law enforcement authorities will be requested to aid the facility with any appropriate searches or other actions as deemed necessary by the law enforcement officials. In the event of repeated prank bomb threats, an investigation of the source will be undertaken, and corporate officials will take the appropriate action against the perpetrator.

Appendix I
Contingency Plan
Figure 2

The Applicant did not include on the list of equipment a description and capability of the PPE (e.g., type of SCBA, 30-minute SCBA with 5-minutes air pack, etc.).

The capability of the PPE that is listed in the Contingency Plan is described as follows. Disposable tyveks are used to protect the employees from getting waste on their clothes. Hard hats are used to protect the employee's from potential head injuries. Air purifying respirators and the cartridges are used to prevent inhalation of impurities. Gloves, boots, safety goggles, and face shields are used to prevent employees from coming into direct contact with wastes. Flame retardant clothing is used to reduce the likelihood that a fire could injure employees in the event of a fire.

Appendix I
Contingency Plan
List of Fire Fighting
Equipment

The equipment should include the PPE, the fire hoses, pumps, fire water pond, water trucks and all other equipment used. A physical description of each item on the list and a brief outline of its capabilities must be provided. On page 234 of the original Contingency Plan, attached to the original permit, it states that a sprinkler or water hose or use of on-site extinguishers will keep the fire from spreading. On pages 240-242 of this plan, the emergency equipment and 1000 gallon tank is listed along with a sprinkler system, location, size and capacity of the water lines. The sprinkler system location and number of sprinkler heads are listed. The Applicant has stated previously that this equipment is not available for use. An explanation should be provided.

The facility previously had a sprinkler system surrounding the old burn site which has been closed. This system was used to prevent the potential spread of grass fires that could occur in the event that material escaped the old burn area. The new burn area (the one that was permitted previously) consists of a concrete pad approximately 700 feet long and 130 feet wide and is surrounded generally by gravel, and the vegetation is maintained such that a grass fire is considered highly unlikely if something were to escape from the burn pad. In addition, the facility periodically (with coordination from forestry officials) conducts controlled burning of the undergrowth in the surrounding wooded areas to further minimize the potential of a fire in the surrounding area. It should be noted that the facility, while it does maintain certain fire fighting equipment, has a policy that it does not attempt to fight any fires that involve or could involve explosive materials. For safety reasons, personnel are advised to evacuate from any area if a fire breaks out until the fire has burned itself out. (i.e., it would not be useful to attempt to extinguish a fire involving reactive/explosive materials).

Appendix K
Training Plan

The Training Plan should include a Table of Contents.

The Training Plan (Appendix K) has been amended to include a Table of Contents.

Appendix K
Training Plan

The Training Plan should include a list of job descriptions for all employees who are required to attend the training programs (e.g., Operators, Site Coordinator, Plant Engineer, etc.). The job descriptions should include the job title, job function, technical requirements, training and duties and responsibilities.

The job titles and their associated descriptions have been added to the Training Plan and are included below:

TITLE: GENERAL MANAGER

REPORTING: Vice President/Director as Assigned

BASIC FUNCTIONS: Manages the Operations, maintenance, and Engineering functions and oversees all other activities at the Colfax Facility to achieve stated profitability goals. Provides dependable quality service to all customers while maintaining compliance with all regulations.

QUALIFICATIONS: Minimum four year technical or business, BS or BA degree from an accredited college, university, or equivalent. Minimum of five years experience or equivalent involving explosive/reactive operations. Experience in hazardous waste industry preferred.

SPECIFIC DUTIES:

1. Oversee and guide daily Operations and long range business planning of the Colfax Facility.
2. Provides direct management of Operations, Maintenance, and Engineering activities at the Colfax Facility.
3. Coordinate the activities of Operations, Sales, Technical Services, Accounting, Compliance Health & Safety, and Human Resources to ensure smooth operations in accomplishment of written business plans and objectives.
4. Develop written business plans, goals and objectives and develop strategies to attain them.
5. Ensure compliance with all regulatory requirements to maintain proper business operations.
6. Ensure a safe and healthful working and living environment for all employees, visitors, and surrounding neighbors.
7. Ensure a productive and motivated work force.
8. Maintain a good relationship and positive image with the local community.
9. Safeguard and maintain all physical assets at the facility.
10. Ensure an ROA on all assets acceptable to company guidelines and senior management.

TITLE: **OPERATIONS MANAGER**

REPORTING: General Manager

BASIC FUNCTIONS: Supervises and manages daily facility explosive/reactive treatment and directs explosive technicians daily routines and activities. Manages on site inventory control over explosive/reactive storage and tracking. Writes standard operating procedures (SOP) on explosive/reactive storage, on site transportation, treatment preparation and treatment processes. Provides facility management guidance in absence of General Manager. Assists facility management in providing quality service to all customers while maintaining compliance with regulatory requirements. Assists in maintaining positive community relations.

QUALIFICATIONS: Minimum four year technical or business, degree from an accredited college or university, or equivalent. Three to five years experience or equivalent involving explosive/reactive operations. Experience in hazardous waste industry preferred.

SPECIFIC DUTIES:

1. Manages daily activities of explosive/reactive treatment operations of the Colfax Facility.
2. Writes procedures (SOP's) for all explosive/reactive operations.
3. Provides specialized professional services for preparing and packing explosives/reactives for shipment from various customer locations.
4. Provides facility management guidance in g absence of General Manager.
5. Assists General Manager in developing plans, goals and objectives and strategies for achievement.
6. Assists General Manager in maintaining compliance with all regulatory requirements.
7. Assists General Manager in maintaining a safe and healthful working and living environment for all employees, visitors and surrounding community.
8. Assists General Manager in maintaining a positive image and relationship with the local community.
9. Manages and conducts special projects as assigned.

TITLE: LEAD EXPLOSIVE TECHNICIAN

REPORTING: OPERATIONS MANAGER

BASIC FUNCTIONS: Supervises Explosive Technicians during preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience required, valid driver's license.

SPECIFIC DUTIES:

1. Oversees maintenance and equipment associated with operations of explosive/reactive waste handling, storage and treatment.
2. Conducts inspections and inventories of explosive reactive waste according to established procedures.
3. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.
4. Operates and maintains communications, monitoring, alarm and security systems.
5. Provides direction on incoming explosive/reactive waste shipments, separates and stores according to compatibility.
6. Oversees preparation and loading of thermal treatment burners with explosive/reactive waste for treatment and disposal.
7. Maintains and utilizes personal protective equipment according to established procedures.

8. Performs additional responsibilities as assigned by supervisor.

TITLE: EXPLOSIVE TECHNICIAN

REPORTING: OPERATIONS MANAGER

BASIC FUNCTIONS: Preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience preferred, valid driver's license.

SPECIFIC DUTIES:

1. Operates and maintains equipment associated with operations of explosive/reactive waste handling, storage and treatment.
2. Conducts inspections and inventories of explosive reactive waste according to established procedures.
3. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.
4. Operates and maintains communications, monitoring, alarm and security systems.
5. Loads and unloads incoming explosive/reactive waste shipments, separates and stores according to compatibility.
6. Prepares and loads thermal treatment burners with explosive/reactive waste for treatment and disposal.
7. Maintains and utilizes personal protective equipment according to established procedures.
8. Performs additional responsibilities as assigned by supervisor.

TITLE: MAINTENANCE TECHNICIAN

REPORTING: OPERATIONS MANAGER

BASIC FUNCTIONS: Maintenance and general housekeeping of all property, buildings, and equipment. Preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience preferred, valid driver's license.

SPECIFIC DUTIES:

1. Maintains and operates all equipment associated with operations of explosive/reactive waste handling, storage, treatment, and maintenance.
2. Maintains all grounds and surroundings such as grass cutting, trimming trees, maintain fire lanes, control burning, picking up litter, grading roads, etc.
3. Maintains and operates all communications, monitoring, alarm and security systems.
4. Maintains required records for proper record keeping of equipment and property according to established procedures.
5. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.
6. Loads and unloads incoming explosive/reactive waste shipments, separates and stores according to compatibility.
7. Conducts inspections and inventories of explosive reactive waste according to established procedures.
8. Prepares and loads thermal treatment burners with explosive/reactive waste for treatment and disposal.
9. Maintains and utilizes personal protective equipment according to established procedures.
10. Maintains and utilizes personal protective equipment according to established procedures.
11. Performs additional responsibilities as assigned by supervisor.

TITLE: PLANT COORDINATOR

REPORTING: GENERAL MANAGER

BASIC FUNCTIONS: Manages all aspects of facility Administration, Accounting, Purchasing, Human Resources, Customer Services and Facility Security and administrative office functions of Health & Safety, Environmental Affairs and Project Management by overseeing daily routines and managing staff activities to maintain a professional and efficient operation.

QUALIFICATIONS: Minimum two-year technical, business or Associate degree from an accredited college or university, or equivalent. Seven to eight years administrative experience or equivalent. Experience in hazardous waste industry or equivalent.

SPECIFIC DUTIES:

1. **Manages daily activities of office and administrative staff of the Colfax Facility.**
2. **Provides direct management of Administration, Accounting, Purchasing, Human Resources, Customer Services and Facility Security.**
3. **Manages administrative activities of Health & Safety, Environmental Affairs and Project Management to maintain a professional and efficient operation.**
4. **Provides facility management as directed when Facility Manager is absent from facility.**
5. **Assists Facility Manager in developing plans, goals and objectives and strategies for achievement.**
6. **Assists Facility Manager in maintaining compliance with all regulatory requirements.**
7. **Assists Facility Manager in maintaining a safe and healthful working and living environment for all employees, visitors, and surrounding community.**
8. **Assists Facility Manager in maintaining a positive image and relationship with the local community.**
9. **Maintains accountability for all assets.**
10. **Manages and conducts special projects as assigned by Facility Manager.**

These job descriptions are maintained on-site and may be updated or modified from time to time, as appropriate.

*Appendix K
Training Plan*

The Applicant must include, in the Training Plan, the major agencies and the associated regulatory requirements (e.g., OSHA, LDEQ, EPA, DOT, ATF, etc.).

The following information is an excerpt from the revised Training Plan (Appendix K). Clean Harbors Colfax, LLC will provide training programs to all affected employees as required by various regulatory agencies. The following is a listing of training that is presently required by regulations.

1. **OSHA Requirements**
 - (a) **24 or 40 Hour Initial Hazardous Waste Training (in accordance with 29 CFR 1910)**
 - (b) **Respiratory Protection and Fit Testing**
 - (c) **Confined Space Entry**
 - (d) **Handling Carcinogenic Compounds**
 - (e) **Electrical Safety**
 - (f) **Moveable Vehicle including Fork Truck Training**
 - (g) **Emergency Response Procedures (in accordance with 29 CFR 1910)**
 - (h) **Welding and Cutting Operations**

- (i) 8-Hour Annual Refresher Training (in accordance with 29 CFR 1910)
- 2. DOT Requirements (49 CFR)
 - (a) Equipment Inspection
 - (b) Notification of Deficiency
- 3. RCRA/LDEQ/EPA Requirements (in accordance with LAC 33.V. and 40 CFR Parts 262, 263, 264, and 268)
 - (a) Emergency Equipment
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (b) Emergency Operations Shutdown
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (c) Emergency Response
 - i. Contingency Plan
 - ii. Spill Prevention
 - iii. Spill Remediation, when necessary
 - (d) Monitoring Equipment, Communications
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (e) Annual Review of Initial Training (in accordance with LDEQ and RCRA)
- 4. ATF Regulatory Review (27 CFR)
 - (a) Transportation of Explosives
 - (b) Storage of Explosives
 - (c) Thermal Treatment of Explosives
- 5. Waste Minimization (as required by LAC 33.V and 40 CFR Part 264)

*Appendix L
Closure Plan*

The Applicant's response to the deficiency is not sufficient. Closure cost estimates for the decontamination of the loader and the excavator must be provided. This equipment will be used by a third party in a worst case scenario of spill residues, ash removal of listed waste, excavation of contaminated soil, etc. Therefore, decontamination costs for this equipment must be provided.

The attached closure plan and cost estimate in Appendix L have been modified to include costs for decontaminating the loader and excavator.

ENGINEERING COMMENTS

LAC 33:V.515.A.16 Drawings 103 and 105 show present TSD areas, but the facility must also include past and future TSD areas. The Applicant must revise these drawings to include these areas.

Drawing 103 includes all of the present and past TSD areas. This drawing has been revised slightly to clarify that the Old Burn Site is the only closed or "past" unit. All other units are present units, and no others are currently planned for future development. Drawing 105 is intended to show emergency equipment only and not past or future TSD areas.

LAC 33:V.517.B.9 The Applicant must acknowledge that groundwater sampling may be an issue if soil samples show contamination in the future.

This acknowledgement was included on page 33-4 of the August 2003 permit renewal application. That information is included below for the Department's convenience:

The facility does not have nor is it requesting a post-closure permit. There is no corrective action ongoing for any of the regulated units. Therefore, Subsections 3301.F-G are not applicable to the facility. However, the facility acknowledges that the administrative authority may apply these subsections if it deems necessary.

LAC 33:V.517.D The Applicant must submit a detailed list of the types of waste burned and detonated at the facility. The list must describe the chemical composition of the waste and must include all compounds and any constituents in quantities greater than trace amounts.

All wastes accepted at the facility must meet the definition of an explosive as defined in 40 CFR. The EPA waste codes that are acceptable at the facility are included in the Part A/1 application. The specific information pertaining to each waste stream is included on each profile that is submitted to the facility for consideration. The profile includes detailed information as to the exact contents of each and every waste stream that is a candidate for delivery to the facility. A breakdown of each constituent or component of each waste stream is included on the profile, along with various other information, including the process generating the waste, the generator information, the physical parameters of the waste, the DOT description of the waste, and the EPA waste codes associated with the waste.

LAC 33:V.517.J.9 The Applicant's response does not explain how the prevention of non-permitted releases to the atmosphere is achieved. A calculation of known concentrations and emission rates is required.

The facility carefully monitors incoming waste shipments and burn rates to ensure that it does not exceed the limitations described in the air permit. Based on the profile information and quantities of wastes burned each operating day, the facility calculates the total emissions. The air permit requirements are listed below:

The following is a summary of the permitted emissions in tons per year:

PM-10	2.4
NOx	38.9
VOC	0.16
CO	6.8
HCL	4.6

The total volume of waste that the facility is permitted to treat (based on the air permit) is 480,000 pounds (net explosive weight) in any consecutive 12-month period. Again, the facility maintains records to ensure that it remains in compliance with this volume limit. There are also specific limits as to physical and chemical characteristics of the wastes treated as follows (in pounds per year):

Air Bag Initiators	50,000
Ammonium Perchlorate	30,000
Ammunition	200,000
Black Powder	10,000
RDX	40,000
Detonators/Blasting Caps	10,000
Flares and Flare Waste	100,000
High Explosives	10,000
HMX	10,000
PETN	10,000
TNT	80,000

It should be noted that the facility is not permitted to exceed a 12-month total of 480,000 pounds (net explosive weight) of all wastes treated at the facility.

LAC 33:V.517.N

The Applicant's response discusses future closings, but does not address past or present ones. An explanation as to past and present closings should be provided.

The facility does not have any past or present hazardous waste disposal units, closed or otherwise. While the facility does not operate any disposal units, the facility does operate a thermal treatment unit and, in the past, operated another thermal treatment unit ("Old Burn

Area”) for which closure activities began in 1995. The next step in this closure process is the approval by LDEQ of the Risk Based Corrective Action Evaluation Workplan which was included in the permit renewal application as Appendix M.

LAC 33:V.534.A

The Applicant must provide the following information related to the design of the burn units

- *Distance between burn units*

Fifty (50) feet

- *Amount of waste burned in each*

The amount of waste burned in each unit will vary depending on the nature of the waste. The total amount burned in all the pans will not exceed 350 pounds of net explosives per hour.

- *How many units burn waste simultaneously*

As stated on page 32-2 of the application, typically 2-3 units burn simultaneously, but in some cases more than that may be used at one time.

- *Secondary containment of the burn area*

The secondary containment calculations were included in Appendix S of the application. The total containment volume is 1,894.7 gallons. The amount of volume that would be generated during a 12-inch rainfall event is 1,609 gallons.

- *How debris is prevented from flying out of the units*

The facility regulates how much material it burns at a given time based on the type of material and its potential to be ejected. All the burn pans have expanded metal covers to also help to minimize the potential for flying debris.

- *What is put into a burn chamber vs. what is put into a burn pan*

These two terms are used interchangeably to mean the same thing.

- *Determination standard for changing the burn pans and chambers*

Visual inspections are conducted to determine wear and tear. Based on past operating knowledge, the facility makes ongoing determinations as to when the burn pans needs to be repaired.

- *Whether the steel mesh cover the burn chamber is connected to the chamber or laid on top*

It is placed on top but is not permanently connected.

LAC33:V.534.C

The 1994 Environmental Assessment is not sufficient for the present permit renewal. The number and location of receptors may have changed since then. The ISCST2 air dispersion model used in the assessment is no longer considered valid, since it is meant for continuous plumes from elevated stacks. Also, it is unclear whether indirect (on-inhalation) routes of exposure were addressed in the 1994 document. The Applicant must submit a workplan for a new Environmental Assessment covering all potential pathways of exposure to humans or environmental receptors.

The facility recognizes that the Department's decision is still pending on whether or not a revised Risk Assessment is necessary, and this matter will be addressed when that decision is made.

LAC 33:V.1519

Section 2.10 of the WAP states "records of the shipments must be maintained in the operating record for the facility." This statement must be modified to include the length of time that the records are retained (e.g., five years as stated in the permit).

All records are and will continue to be maintained on-site for as long as necessary to ensure compliance with the current regulatory requirements and the current permit (The section of the WAP referred to in this comment is the Ash Management SOP that is included in the WAP as Exhibit A).

LAC 33:V.1519.A.4

The Applicant must specify procedures for the initial waste screening including how the waste is checked and what the waste is checked for.

Each incoming candidate waste stream will be preceded by a completed waste profile sheet (Exhibit B, Waste Analysis Plan (Appendix G)) that describes the waste. Upon arrival, the wastes are visually inspected. No other analyses are considered appropriate due to the nature of the wastes.

LAC 33:V.1519.B.1-2 For outgoing waste, the WAP must specify the rationale for the sampling parameters and the analytical methods employed.

The facility conducts analyses based on the constituents known to be present in the materials that are burned (according to the profiles). The facility does not typically analyze for explosives since they are eliminated during the thermal treatment process. Other information is included in detail in the WAP. Section 4.2 identifies the sampling and analytical requirements for wastes generated during management of characteristically hazardous wastes. Section 4.3 identifies the sampling and analytical requirements for wastes generated during management of listed wastes. This information also repeated below for the Department's convenience.

4.2 Waste Characterization - Residues from Treatment of Characteristic Waste. As previously stated, residue from the treatment of characteristic waste will be separated from residue from the treatment of listed waste. The frequency of sampling will be based on the rate of filling the container, rather than a chronological interval. Sampling will be conducted as follows:

- Three sub-samples will be taken from each container to be shipped, as it is being filled. These will be composited after the final sub-sample is obtained and analyzed as a single sample.
- Sub-samples will be collected as follows; Sub-sample No. 1 will be collected from the ash surface near one end of the container, Sub-sample No. 2 will be collected from the middle of the container at mid-depth of the ash, and Sub-sample No. 3 collected from the opposite end of the container near the bottom.
- Sub-samples will be held and composited for final analysis.

The composite sample will be analyzed to determine if the residue exhibits the characteristic of toxicity for the metals listed in LAC 33:V.4903. Testing will be in accordance with the methods published U.S. Environmental Protection Agency (EPA) *Test Methods for Evaluating Solid Waste*; SW-846; Third Edition. Extraction protocol will comply with SW-846 Method 1310A; analysis for metals will be in accordance with SW-846 methods.

QA/QC documentation to be provided by the contract analytical laboratory will include:

- sample documentation;
- documentation of initial and continuing calibration;
- determination and documentation of detection limits;
- analyte identification and quantification;
- matrix spike recoveries;
- performance evaluation samples;
- analytical error determination; and
- total measurement error determination.

Sample containers will be provided by the laboratory, and will be used as received. Sample containers will be labeled to provide information on the sample location, date, time, sampling personnel, and the parameters for which the waste is to be analyzed. Strict chain-of-custody will be followed.

Any equipment which is used for sampling will be decontaminated prior to use. Decontamination will involve a detergent wash with a non-phosphate detergent followed by triple rinsing with distilled water. After decontamination, the sampling equipment will be wrapped in aluminum foil if not used immediately.

4.3 Waste Characterization - Residue from the Treatment of Listed Hazardous Waste. The ash residue from the burners used to treat listed hazardous waste will be assigned the waste codes applicable to the waste prior to thermal treatment. This waste will be sent under manifest to a permitted disposal facility.

As required under LAC 33:V, Chapter 22, Clean Harbors Colfax, LLC will evaluate these wastes to determine whether land ban disposal restrictions apply, and if so, whether further treatment is required to reach permissible disposal concentrations. In such cases, the subject ash will be analyzed for the constituent specified in Chapter 22 for the applicable waste code. All Sampling protocol and analytical methods, including QA/QC requirements, will be as specified in Section 4.2 above.

This section specifies the parameters for which each waste will be analyzed and the rationale for the selection of these parameters, in compliance with LAC 33:V.1519.B.1.

LAC 33:V.1519.B.5

Both the incoming and outgoing waste must describe QA/QC procedures to ensure that the waste is being disposed of properly (i.e., the WAP must explain "proper and safe waste management techniques").

Section 3.0 of the Waste Analysis Plan describes the incoming waste procedures, and Section 4.0 describes the outgoing waste procedures. As previously discussed, the incoming waste QA/QC procedures include a visual verification only. Additional outgoing waste QA/QC procedures are described in detail in the Ash Management Plan that is included as an attachment to the WAP. Proper and safe waste management techniques are those waste management techniques that comply with the applicable regulatory requirements and protect the environment and human health.

The WAP must describe initial and continual quality control procedures (including type, physical characteristics, and amount of waste) to ensure that the waste being processed meets the incoming specification sheets and profile. The outgoing waste must include QA/QC procedures used to ensure the waste sampling is satisfactory (for example, duplicate and trip samples).

Proper and safe waste management techniques are those waste management techniques that comply with the applicable regulatory requirements and protect the environment and human health. It is explained in the WAP and in the responses to the regulations in this section that, due to the nature of the waste processed, all incoming wastes are visually examined only. No other QA/QC procedures are applicable. For outgoing wastes, the WAP indicates what waste analysis is completed. This sampling and analysis is completed on every batch.

LAC 33:V.1519.B.6

The Applicant must supply profiles of each waste treated, including specification and off-specification sheets for wastes that have not been analyzed before shipping.

The Waste Analysis Plan specifies that profile sheets are required to be submitted to the facility for each and every incoming waste stream that is shipped to the facility. All profiles are maintained in the operating record for the facility.

LAC 33:V.1519.B.9

The Applicant must respond to this regulation. At a minimum, a specification sheet or waste profile must be provided for each type of waste treated.

The facility requires a unique profile sheet from each generator for every waste stream processed at the facility. These waste profiles are maintained in the Operating Record and

are available for review at the facility upon request by the Department. None of the wastes, based on knowledge of the materials, would be expected to contain VOC's at levels greater than 500 ppm. (It should be noted that the facility is not requesting the exemption referenced in LAC 33:V.1519.B.9.)

LAC 33:V.3203

The Applicant must explain whether it can quantify the amounts of the RCRA metals, chlorine/chlorides, and particulates burned at any given time.

Based on information provided by the generators via the waste profile sheets on each individual waste stream processed, the facility can quantify the amounts of constituents burned at a given time. The facility is required by its air permit to track many of these components, and these records are maintained on-site and available for Department review.

LAC 33:3203.C

The Applicant states that the throughput capacity is based on the air permit. A numerical value must be given. The Applicant also states that "emission rates were below levels that would pose a potential hazard to human health via the atmospheric dispersion. Based upon this result the treatment units will not have human health impact via groundwater or subsurface soil." The facility must explain this statement and the relation of air dispersion characteristics to water and soil contamination based on the 1994 risk assessment.

The throughput, as described in the air permit, is limited to 350 pounds per hour of net explosive weight. The Air Emissions Human Health and Ecological Risk Assessment (Section V of the Environmental Assessment Report (Appendix U) Section 2 page 4 utilized an annual emissions rate of 239 tons/year (478,000 lbs.). Since the air permit allows treatment of 480,000 lbs. per year, the modeling calculations are still valid. The very conservative emission rates for metals were over 6 times the maximum anticipated metals outputs per year. In addition to air emissions, deposition on soil and surface water and leaching to groundwater and the subsurface were also considered. The risk assessment indicated that there is no human health or ecological risk based on the modeled/actual emissions.

LAC 33:V.3203.C.1

The Applicant states that the throughput capacity is based on the air permit. A numerical value must be given.

The throughput, as described in the air permit, is limited to 350 pounds per hour of net explosive weight, not to exceed 480,000 pounds of net explosive weight in any consecutive 12-month period.

The Applicant also states that "emission rates were below levels that would pose a potential hazard to human health via the atmospheric dispersion. Based upon this result the treatment units will not have human health impact via groundwater or subsurface soil." The Applicant must explain this statement and the relation of air dispersion characteristics to water and soil contamination.

The Air Emissions Human Health and Ecological Risk Assessment (Section V of the Environmental Assessment Report (Appendix U) Section 2 page 4 utilized an annual emissions rate of 239 tons/year (478,000 lbs.). Since the air permit allows treatment of 480,000 lbs. per year, the modeling calculations are still valid. The very conservative emission rates for metals were over 6 times the maximum anticipated metals output per year. In addition to air emissions, air-born deposition on soil and surface water and leaching to groundwater and the subsurface were also considered. The risk assessment indicated that there is no human health or ecological risk based on the modeled/actual emissions.

The results of the annual soil sampling indicate that there has been no depositional impact of metals, volatile organics or explosives from 1996 to 2002 (Appendix V, 2002 Soil Monitoring Report). The model output generated some depositional mass to soil for risk calculation. Therefore, the model over estimated the actual depositional mass and the model is valid.

LAC 33:V.3203.A.7

The current permit shows that the thermal treatment pad area must be inspected twice weekly. The inspection plan does not support this inspection schedule.

Both the Inspection Plan and the form used to document the inspections indicate that the pad area is inspected each operating day.

Also, the facility must provide an explanation of the results of the soil monitoring conducted.

The results of the soil monitoring (2004 Annual Soil Monitoring Report dated February 2005), which are reported annually, have shown no detrimental impacts from the activities conducted on-site.

LAC 33:V.3203.A.9

The Applicant states that "access by birds and other wildlife is not a critical concern...wastes are securely enclosed and stored...until treatment." The Applicant must consider the access of wildlife during actual waste treatment.

The noise created by the preparation and treatment activity (workers and equipment in the area prior to treatment) will typically be sufficient to cause birds and other wildlife to avoid the area during treatment operations.

LAC 33:V.3205 *The Applicant must respond to all parts of the regulation, not just the part concerning inspections.*

The facility will conduct the necessary monitoring, testing, analytical, inspections, responses, and reporting procedures at the necessary frequencies to ensure compliance with LAC 33.V.909, 1509, 1511.D, 1529.D-E, 3203, and 3322, as well as any additional requirements needed to protect health and the environment as specified in the permit. Additional details concerning compliance with the individual regulations referenced above can be found in each of the respective sections of this application.

LAC 33:V.3207.B *The Applicant states that it "anticipates that the closure activities described in the closure plan will accomplish the requirements of this regulation." However, the closure plan is deficient in the following areas:*

- *The plan does not describe the most expensive means of closure because it does not detail third-party costs.*

The costs for disposal of the various residuals are detailed as third party costs (i.e., transportation and disposal to Chemical Waste Management in Carlyss, LA and Clean Harbors Plaquemine, LA). Other costs, such as analytical expenses, are estimated third party costs based on the facility's experience utilizing third party laboratories. Labor costs are expressed as an hourly rate, and the rate used is well above the average for the area. It should also be noted that a 10% contingency is added to the total closure cost estimate to provide a further comfort factor.

- *A closure coordinator and closure engineer should be named.*

The plan describes the requirements for these persons, but the facility cannot currently anticipate the identity of a particular person who will serve in these capacities since closure is not anticipated for a number of years.

- *The plan states the closure coordinator "will prepare an equipment inventory, determining the proposed disposition of each item...[and]...will include the extent to which any item will be decontaminated..." This is insufficient. An equipment inventory must be kept at all times. It can be updated at closure.*

The equipment inventory is maintained at all times. At the time of closure, however, it will be necessary for the closure coordinator to prepare or update the inventory to include a determination of the extent of the need for decontamination and other closure procedures.

- *The closure plan does not discuss the analytical procedures that will be completed for residues removed from the concrete pad area.*

The ash and any other residues that are removed prior to rinsing will be considered hazardous waste for purposes of closure activities, so no analytical procedures will be completed. Based on knowledge of the operations, all the waste codes that have been processed in this area will be applied to the ash and other residues removed at the time of closure. These materials will be disposed as a hazardous waste at an appropriately permitted hazardous waste TSDF (as described on page 12 of the Closure Plan).

- *The plan states that rinsate samples will be tested for VOC's, total metals, and explosives. The samples must also be tested for reactivity, corrosivity, and ignitibility. Also, the plan does not state how it will determine if the concrete pad is "clean," which is usually accomplished when rinsate analysis is nondetect for constituents.*

Testing for reactivity, corrosivity, and ignitibility is usually required to characterize a waste and to aid in determining the treatment and disposal method and/or facility. The types of wastes stored and treated at the facility, waste container and packaging types on receipt, waste storage, waste preparation and treatment techniques, and waste residues handling and storage activities are not expected to leave a residue in the permitted units requiring decontamination during closure that would cause the closure rinsate to exhibit reactivity, corrosivity, and ignitibility characteristics, especially the final rinsate samples. These type tests, if required, would likely be run on a composite of the rinsate waters to assist in characterizing this material, developing a waste profile and obtaining approval from the disposal facility prior to shipment offsite. The text in Section IV.F of the attached Closure Plan and cost estimate in Appendix L has been revised to include testing for these parameters.

The clean criteria for the concrete containment areas will be the non-detections above the PQLs in the final rinsate samples for the VOCs; metals and explosive constituents less those detections resulting from background samples and/or the source of decontamination rinsate waters (primarily metals). Section IV.G of the attached closure plan has been modified to include these changes.

- *The plan states that "initially" the accumulated sediment and soil beneath the detention pond will be sampled. Please explain what is meant by "initially."*

"Initially" means prior to removal of the liner. If there is any accumulated sediment, it will be sampled and analyzed as discussed in the Closure Plan.

General Comment
Risk Assessment

The original risk assessment was completed in 1994. The Applicant may be required to submit an updated risk assessment.

If the facility increases the maximum hourly treatment rate from 164 to 350 pounds per hour, the Applicant may be required to reassess the air emissions and the risk.

The Applicant may be required to explain the relation of the air dispersion characteristics to water and soil contamination based on an updated risk assessment.

The facility recognizes that the Department's decision is still pending on whether or not a revised Risk Assessment is necessary, and this matter will be addressed when that decision is made.

GEOLOGIST'S COMMENTS

LAC 33:V.517.T.1

The Applicant has not satisfactorily addressed this regulation. The geological certification provided by Peter Lee is generally acceptable. However, a geophysical survey conducted in 1993, and submitted in Appendix U of the August 2003 RCRA Permit Application, identified a possible fault across the southern end of the burn pad. This fault was not addressed by the geological certification. The Applicant must demonstrate that there has been no Holocene movement of this fault. The date of the geological certification in Appendix D must be provided.

The Geological Certification in Appendix D has been revised and dated to address the alleged fault. The alleged fault is not considered to be present or, if present, does not indicate Holocene activity.

LAC 33:V.1530.A.3

See comments concerning LAC 33.V.517.T.1 above.

The Geological Certification in Appendix D has been revised and dated to address the alleged fault. The alleged fault is not considered to be present or, if present, does not indicate Holocene activity.

LAC 33:V.3293.A.1-5The Soil Monitoring Plan in Appendix Z specifies 12 sample locations. Seventeen on-site and three off-site locations are being sampled. Clarification must be provided. The Soil Monitoring Plan in Appendix Z must be revised to reflect the correct number of sample locations.

The attached plan has been revised to include the correct number (17 on-site and 3 off-site) of sampling locations.

LAC 33:V.3322

The only identified SWMU/AOC requiring corrective action is the Old Burn Area. A Risk-Based Corrective Action Evaluation Workplan for this area was submitted as Appendix M. The workplan must clearly specify the sample locations and data sets to be used in calculating background concentrations. The current workplan seems to propose using potentially-impacted samples from north and south of the New Burn Area to calculate 95% UCL-AM. All data used to determine background levels for metals must be from sampling in areas not impacted by facility operations. A minimum of eight discrete samples is required to define the background concentration as the arithmetic mean plus one standard deviation. All proposed background concentrations are subject to LDEQ approval.

The Facility has been sampling the near surface soils for metals analysis at seventeen (17) onsite and three (3) offsite locations since the mid 1990's as required by the Annual Soil Monitoring Plan. The approximate locations of these sample points are shown on Figure 1 in Appendix A of the Annual Soil Monitoring Reports (latest 2004 report dated February 20, 2005). These results have been compared to an established background data set to determine if there is any statistically significant increase in metals concentration that would indicate impact from the ongoing operations at the facility. No statistically significant increase in metal concentrations has been found at these locations through the 2004 sampling event. The historical metals results for these locations are reported on Table B-1 in Appendix B of the Annual Soil Monitoring Reports.

The current Risk-Based Corrective Action Evaluation Workplan for the Old Burn Area had proposed using these annual soil-sampling locations as background levels for metals. Although the data indicates no statistically significant increase, the LDEQ has expressed some concern regarding the potential for impact due to some of their locations to the New Burn Area. A review of the annual soil sampling locations indicate that onsite locations S-1 through

S-5 and offsite locations S-1 through S-3 are located the furthest from both the old and new burn units. These locations would result in the minimum required eight (8) discrete samples to define the background concentration as the arithmetic mean plus one standard deviation. Section 7.4.1 of the Risk-Based Corrective Action Evaluation Workplan (RBCAEW) in Appendix M of the "Responses to 9/28/04 Notice of Deficiencies and Supplemental Information for the RCRA Hazardous Waste Permit Renewal Application" dated December 2004 has been modified to propose these locations for background metals analysis. Plans are to use the earliest available complete data set from July 1996 for these eight locations as background levels for metals. Attached is copy of the revised RBCAEW cover page, table of contents, Section 7.4.1 (pages 20-25), Table 6 (reference Table B-1 of annual soil monitoring reports) showing the historical background metal concentrations, and Figure 1A showing the proposed sampling locations. Figures 1 and 1A in the RCAEW can be used to show the proposed sampling locations with respect to the Old and New Burn Areas. These revisions should be attached to the latest RBCAEW (December 2004) in Appendix M.

The facility acknowledges that all proposed background concentrations are subject to LDEQ approval.

LAC 33.V.Chapter 35

In addition to soil samples proposed in the Closure Plan, submitted as Appendix L, additional soil sampling locations should be proposed for areas at which waste enters or leaves the unit. LDEQ suggests sample locations spaced 100 feet apart flanking all entry and exit points for the treatment unit.

The facility is already sampling five points around the Thermal Treatment Unit (New Burn Area) on an annual basis. The closure plan includes sampling of seventeen (17) locations. The text in Section IV.E and IV.F of the Closure Plan in Appendix L has been revised to describe the sample location. Eight (8) of the sample points will be taken at the entry and exit points to this area (4 at each end flanking both sides spaced approximately 100 feet apart). The other sample points will be spaced around the unit and include the five (5) locations already sampled annually for a total of seventeen (17) locations.

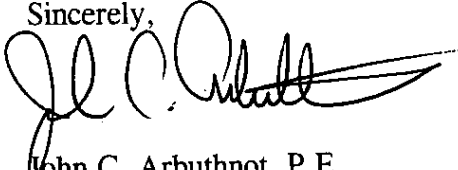
Mr. Lenny Young

August 22, 2005

Page 47 of 47

Clean Harbors Colfax, LLC looks forward to working with the Department as this application proceeds toward renewal of the operating permit for the facility. If, in the meantime, however, the Department has any questions concerning the enclosed information, please do not hesitate to contact me at (225) 778-3596.

Sincerely,



John C. Arbuthnot, P.E.
Senior Remediation Manager
On behalf of Clean Harbors Colfax, LLC

Enclosures (NOD Responses-4 bound copies)

cc:

Mr. Mike Overbay (w/enc, 1 complete copy)
Mr. James Gallion (w/enc, 2 complete copies)
Mr. Mike Crisenbery (w/enc)

USEPA-Region 6
Clean Harbors Colfax, LLC
Clean Harbors Environmental Services, Inc.

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**Responses to 6/22/05 Notice of Deficiencies
Hazardous Waste Permit Renewal Application
Clean Harbors Colfax, LLC
LAD 981 055 791
LDEQ Agency Interest Number 32096**

LIST OF ATTACHMENTS

Attachment 1 – August 13, 2003 Cover Letter to NOD Response

Appendix A – Certification Statement

Appendix B – Revised Drawing 103 to indicate past and present TSD Units

Addition to Appendix D – Geological Information

Appendix I – Contingency Plan

Appendix K – Revised Training Plan

Appendix L – Revised Closure Plan

Appendix M – Revisions (replacement cover page, table of contents, text pages 20-25, Table 6, and Figure 1A) Old Burn Area Risk Based Corrective Action Evaluation

Addition to Appendix P – Agency Letters

Addition to Appendix R – Miscellaneous Data and Forms

Appendix Z – Revised Soil Monitoring Plan

Attachment 1

08/13/03 Cover Letter to NOD Response



August 13, 2003

Via Federal Express

Mr. Michael Vince, Administrator
Louisiana Department of Environmental Quality
Office of Environmental Services/Permits Division
602 N. Fifth Street
Baton Rouge, Louisiana 70802

**Subject: Revised RCRA Hazardous Waste Permit Renewal Application/NOD Responses
Clean Harbors Colfax, LLC
LAD 981 055 791
LDEQ Agency Interest Number 32096**

Attention: Ms. Karla Vidrine

Dear Mr. Vince:

In response to the Department's April 1, 2003 Notice of Deficiency related to the November 10, 1997 Hazardous Waste Permit Application, please find attached five (5) complete copies of the RCRA Hazardous Waste Permit Renewal Application for the above referenced facility. Each copy consists of four (4) volumes and includes all applicable information required for a renewal application. The renewal application was prepared in conformance with the requirements of LAC 33:303.N. and other applicable portions of the Louisiana Administrative Code. In addition, the facility has included below an itemized listing of each deficiency identified by the Department (listed below in *italics*), followed by the facility's response in **bold**.

LAC 33:V.501-516 The applicant must respond to this regulation.

The facility's response to this section is included in Chapter 5 of the permit application.

LAC 33:V.516 The applicant must provide the information required by this regulation as it pertains to any Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs), including the previously identified "Old Burn Unit"

The needed information is included in Chapter 5.

Clean Harbors Colfax, LLC
3763 Highway 471 Colfax, LA 71417 (318) 627-3443

File Copy
See Exp: 8414-5193-4831
8414-5193-4809
8414-5193-4853
8414-5193-4864
8414-5193-4794
8414-5193-4842

8/13/03
34-

LAC 33:V.517.B *Figures 1 and 3 are not to scale. The map must be at a scale of one inch equal to not more than 200 feet. A topographical map must be provided. Additionally, Figure 1 does not clearly show surface water flow.*

These figures have been revised to address the deficiencies above. Figures 1 and 3 are now designated as Drawing #'s 103 and 105.

LAC 33:V.517.B.2 *Figure 1 must include a north arrow.*

Drawing #'s 103 and 105 have been updated to include a north arrow.

LAC 33:V.517.B.4 *Appendix 8, "Environmental Assessment Report" dated January 1994, and referenced in response to this regulation, contains only a Table of Contents; if this appendix is to provide the required information regarding area geology and hydrology, the entire document must be provided for review.*

The entire document is included in Appendix U of the revised application.

LAC 33:V.517.B.5 *The aerial photograph is too dark to provide useful information. A colored aerial photograph, to scale, must be submitted. The aerial photograph does not indicate a 2-mile radius around the facility. Additionally, figure 5 is not to scale and is difficult to read. The map must differentiate between residential and commercial areas.*

Figure 5 has been replaced by Drawing #'s 100 and 101. These drawings include an improved and more legible aerial photograph.

LAC 33:V.517.B.8 *The referenced "Attachment 6" contains only water well analyses; the applicant must provide a map identifying the location of the water wells from which these analyses were obtained in relation to the facility in addition to well construction/completion data.*

A revised drawing (Drawing # 104) is included in Appendix B. In addition to the drawing, well construction and completion information in tabular form is included in Appendix F.

LAC 33:V.517.B.13 *Applicant must provide written details and a map.*

The required map is included as Drawing #103 in Appendix B, and a more detailed description of the operational units is included.

LAC 33:V.517.D

The applicant must submit a detailed list of the types of waste burned and detonated at the facility. The list must describe the chemical composition of the waste and must include all inert compounds and any constituents in quantities greater than trace amounts.

The complete list of the wastes handled at the facility is included in the Part A/Part I application. The chemical and physical analyses of the hazardous wastes handled at the facility are described in detail in the Waste Analysis Plan (Appendix G).

LAC 33:V.517.I

Appendix 4, Contingency Plan, the applicant must provide a written, detailed contingency plan and not simply provide responses to the regulations.

A written, detailed Contingency Plan is included as Appendix I.

LAC 33:V.517.J.6

The applicant must provide the specific types of protective clothing and the procedures for prevention of undue exposure.

The facility has included more specific information regarding the protective clothing and other measures for preventing undue exposure. [The facility assumed that the regulatory citation for this comment was LAC 33:V.517.J.7 instead of LAC 33:V.517.J.6.]

LAC 33:V.517.J.8

The applicant must provide details of the procedures implemented, safety measures, safety plans and wall construction for the safe storage of the wastes.

Additional details have been added, and the ATF storage requirements are included in Appendix R. These standards are generally more stringent than those required under RCRA and thus, should afford sufficiently safe storage of the wastes for purposes of this permit.

LAC 33:V.517.J.9

The applicant must explain how prevention of non-permitted releases to the atmosphere are achieved. The procedures must be described in detail.

The section has been expanded to include additional details to address this comment.

LAC 33:V.517.T.1

The applicant must demonstrate compliance with the seismic standard using:

- *published geologic studies;*
- *aerial reconnaissance of the area within a five-mile radius from the facility;*
- *an analysis of aerial photographs covering a 3,000-foot radius of the facility; and*
- *if needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility.*

This information provided must be of a quality as to be acceptable to geologists experienced in identifying and evaluating seismic activity. If the above information does not demonstrate compliance with the seismic standard, the applicant must satisfy the requirements of LAC 33:V.517.T.1.a.ii.

Based on the citation from the Federal regulations which is included in the response to this section and the additional information provided in Appendix D, the facility believes that it has adequately addressed these concerns.

LAC 33:V.517.T.3

The applicant must provide the required information; if Appendix 8 is to provide the required information regarding area geology and hydrology, the entire document must be provided for review. Also, the applicant must provide a general area map and cross sections indicating the extent of freshwater sands, and the degree of isolation of these aquifers to a depth of 1,000 feet from waste sources, by confining layers of clay, as required by §517.T.3.e.

Drawing #'s 114 and 115 have been updated and included in Appendix B. Appendix U (formerly Appendix 8) has been included in its entirety.

LAC 33:V.517.T.5.a

The applicant must provide documentation of the absence of these (i.e., recreational areas, etc.) areas within 1,000 feet of the site.

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Letters were provided to various agencies requesting information on recreational areas, historic sites, endangered species, etc. The letters and the responses received by the facility are included in Appendix P

LAC 33:V.517.T.7.b

The applicant must explain the checkpoints and explain how waste received will be thermally treated to reduce the hazard of final disposal. Explain why the waste may be taken from the storage units to the preparation building to modify the waste containers for thermal treatment and how the wastes are removed from the burning areas and placed in the open burners. Explain how the waste is collected and containerized for disposal. Describe the PPE required in the treatment, removal and disposal of waste.

The additional details requested are explained in greater detail in LAC 33:V.517.T.7.b.

LAC 33:V.517.T.7.b.ii

The applicant must explain in detail open burning thermal treatment, the preparation procedures, and the procedures for placing waste and containers in open burners for ignition. The applicant must also explain the purpose of cone-shaped charges, and explain the procedures for spills that are collected and burned.

More details have been added to this section. With regard to the Department's comment on the purpose of the cone-shaped charges, these are explosive charges that are typically used in the oil field industry to blow holes in rock at the bottom of a drilled well. They have a cone inside and are cone shape charges because they direct the blast. There are no spills from these as they are solid explosive, and the facility only opens the case. If any of the dry explosive contaminates anything during preparation, it is collected and burned along with the charges. The facility does not utilize the cone-shaped charges for any purpose. They are generated as such, and the facility simply manages them.

LAC 33:V.517.T.7.b.ii

The applicant must explain the ATF standards and "long-term" storage.

The ATF standards, as they relate to storage magazine construction and operation, are included in Appendix R. With regard to the "long-term" storage reference, the facility does not maintain any wastes on-site for longer than one year (in accordance with RCRA storage requirements). No disposal occurs on-site. [The facility also assumed that the regulatory reference for this comment was LAC 33:V.517.T.b.iii instead of LAC 33:V.517.T.b.ii.]

LAC 33:V.517.T.7.b.iii The applicant must describe the recordkeeping procedures and not reference other responses and chapters in the application.

Additional details have been added to this section, and references to other responses and chapters have been eliminated.

LAC 33:V.517.W The applicant must respond to this regulation.

The revised application includes a response to this regulation. It should be noted that this regulation was not in effect at the time of the previous application submittal.

LAC 33.V.519 The applicant must respond to this regulation and provide the correct citation of this regulatory requirement.

The facility has updated the regulatory citation and responded to it.

General Comment The applicant must respond to all applicable regulatory requirements. If a regulation is not applicable, the applicant must provide a brief explanation to why the requirement is not applicable to this facility.

The facility believes that it has included responses to all applicable regulatory requirements. In cases where a regulation is not applicable, the facility has included a brief explanation as to why the requirement is not applicable to the facility.

General Comment The applicant must provide a detailed and specific response. Referencing other sections or previous responses is not sufficient.

Detailed responses have been included. To the extent that it is appropriate to reference an appendix or drawing, the facility has done so, but otherwise applicable responses have been repeated for completeness.

LAC 33:V.520 Although groundwater monitoring has not been required for this facility, the applicant must provide a summary of any groundwater monitoring data from wells located on-site. Also, see comments on response to LAC 33:V.517.T.3; above.

The summary of previous monitoring data is included in the revised response. The results of previous sampling are included in Tables 2-1 and 2-2 in Section II of the Environmental Site

Assessment (Appendix U). No plume of contamination is known to have entered the groundwater at the site.

LAC 33:V.521.A.2 The applicant response states, "The design of the storage magazines ensures that standing liquids do not develop within the magazines and that the wastes do not come into contact with pond water or precipitation." The applicant must explain how this is achieved for the storage magazines that store liquid wastes. The applicant must state how often precipitation is collected from the burners and explain what happens to precipitation that is temporarily stored in the polyethylene tank.

The section has been expanded in detail to provide the requested explanation.

LAC 33:V.521.A.3 The applicant must specify the maximum truckload for drums.

The maximum truckload of drums has been defined in the response.

LAC 33:V.521.B.1 The applicant must explain the test procedures and results indicating that the wastes do not contain free liquids.

The response includes an explanation that a visual examination of each container takes place, along with a review of the information provided by the generator regarding the contents of each waste container. The regulation allows for the use of "other documentation and information" and does not require specific analytical testing. Due to the nature of the wastes processed at the facility, it would not be prudent to undertake any testing or unnecessary probing into the waste to determine if liquids might be present.

LAC 33:V.521.B.2 The applicant must explain the design and operation of the storage area capabilities to drain and remove liquids.

Additional details have been included in the response to this regulation.

LAC 33:V.521.C The applicant must provide sketches, drawings or data demonstrating compliance with LAC 33:V.2113, indicating the buffer zone and container holding ignitable or reactive waste and provide similar documentation to comply with LAC 33:V.2115.C, indicating the location of incompatible wastes.

The drawings provided in Appendix B include more detailed information to comply with this requirement.

LAC 33:V.521.E The applicant must respond to this regulation.

The response is included in the application.

LAC 33:V.525 The applicant must explain in detail the use of the surface impoundment.

The facility does not utilize a surface impoundment for the storage, treatment, or disposal of hazardous waste; therefore, any references to surface impoundments in this section or others are not applicable.

LAC 33:V.526 The applicant must respond to this regulation.

The facility has included a response to this regulation.

LAC 33:V.534.A.1 The applicant must describe the secondary containment area for the truck staging area, any sumps associated with the area and explain the hazardous ash stored in the container storage area.

The secondary containment area for this unit is described elsewhere in the application (LAC 33:V.521), and the calculations are included in Appendix S. Since this unit is not a "miscellaneous unit" used for treatment, storage, or disposal of hazardous wastes, a description of it was not included in this section. As for the ash that is stored in the area, generally, analytical results demonstrate that it is not hazardous waste. It should be noted that the material is a solid waste generated on-site that can be stored in a permitted area for up to one year or up to 90 days otherwise, if hazardous, and indefinitely, if not hazardous.

LAC 33:V.534.A.2 The applicant must provide a detailed response to this regulation.

The response is included in the revised application.

LAC 33:V.534.B The applicant must provide a detailed response to this regulation.

The response is included in the revised application.

LAC 33:V.534.C-D The applicant must provide detailed responses to these regulations.

The responses are included in the revised application.

LAC 33:V.1503.A.1 Figure 1, Facility Layout and Contour Map is not to scale, missing the north arrow and legend. Figure 5, Land Use Map is not to scale.

Drawing #'s 102 and 103 have replaced these figures. They have been revised and updated to meet all the regulatory requirements.

LAC 33:V.1503.A.2 If Appendix 8 is to provide the required information regarding site soils, the entire document must be provided for review.

The entire document is included in the revised permit application (Appendix U).

LAC 33:V.1503.A.3 See comments to LAC 33:V.517.T.1 in Item 14.

This information is addressed in the text and in the additional information added to Appendix R.

LAC 33:V.1505.C.3 The location of the sumps should be identified.

The sumps are identified on the plan view on Drawings # 107 and # 108. A typical cross-section of the sumps is presented as Section C-C on Drawing # 107 (upper left hand side). These sumps are used to make the collection of any spilled materials or rainfall easier.

LAC 33:V.1507.B The applicant must specify how often the Grant Parish Sheriff's Department visually checks the facility during non-operating hours. In addition, the regulation states that the entire perimeter of the hazardous waste area must be continuously patrolled or monitored. The applicant must explain compliance with this regulation.

Additional information has been added to explain compliance with this regulation.

LAC 33:V.1507.C The applicant must explain the security at the egress gate marked on Figure 3.

As mentioned in the text of the application, this gate remains locked at all times. It is there to be used in case of an emergency situation. Since it is not used for entry to the facility and remains locked, no security guards are needed at this gate. Figure 3 has been replaced by Drawing # 105 and is located in Appendix B.

LAC 33:V.1507.F

Figure 2, Aerial Photo is not to scale and not legible. The applicant must provide a color aerial photo, to scale and indicate the facility boundary.

The aerial photo has been revised to meet the requirements. Figure 2 has been replaced by Drawing #'s 100 and 101.

LAC 33:V.1507.H.1

The applicant must explain the type of internal alarm system with controls accessible to each area of potential spill, explosion or fire at the facility.

The facility has expanded its response to clarify that the hand-held radios are utilized as the internal alarm system to notify other employees of a spill, explosion, or fire.

LAC 33:V.1507.I.1

The applicant must specify if barriers are in place capable of stopping trucks or if other equipment is installed to protect areas from moving equipment on the site.

There are no steel or concrete barriers in place, but the facility does not have any hazardous waste above-ground pipelines, valves, or other containers located adjacent to roadways. The storage magazines are constructed of steel and concrete and are designed to protect their contents from minor exterior impacts that might potentially occur. It should be noted that no such events have taken place in the last ten years that the facility has operated under its current permit.

LAC 33:V.1507.J.3

The regulation states that perimeter barriers shall be lighted. The applicant must state whether it meets this requirement.

To the extent appropriate, the interior 43 acres (the operating area) are well lighted at night, even though no waste processing activities occur during non-daylight hours.

LAC 33:V.1509.B.4

Loading and unloading areas must be included in the inspection schedule. Inspections of these areas must be daily when in use.

All such areas have been included on the inspection checklists, and they are inspected daily when in use.

LAC 33:V.1509.B

The spill control equipment must be included in the inspection schedule.

The spill control equipment is included on the inspection schedule.

LAC 33:V.1511.C.1 The applicant must explain how all plant personnel and visitors are warned of an emergency in lieu of an alarm system.

Any visitors to the facility will always be accompanied by site personnel. The site personnel have two-way hand held radios for easy, prompt communication with personnel in other areas of the site.

LAC 33:V.1511.C.3 The applicant must indicate what spill control equipment is available for liquid spills.

Additional information has been added to this section to address this comment.

LAC 33:V.1511.G.1.a-d The applicant must describe arrangements to familiarize law enforcement, fire departments, and emergency response teams with the facility, the waste handled at the facility, hazards associated with the waste, roads, evacuation routes, etc. as specified in this regulation. The documentation of agreements with law enforcement, fire departments, etc. must be provided.

This information is included in the Contingency Plan (Appendix I).

LAC 33:V.1513 The applicant must respond to these regulatory requirements.

The responses are included in the revised application.

*Appendix 4 -
General Comments The applicant must provide an actual plan containing information required in LAC 33:V.1513.*

The Contingency Plan is included in Appendix I.

*Appendix 4 -
LAC 33:V.1513.A.2 The applicant must indicate the locations of the contingency plans maintained on-site.*

This information is included in the Contingency Plan (Appendix I) and in the response to this regulation.

*Appendix 4 -
LAC 33:V.1513.B.1*

The applicant must provide a description of the evacuation route. The applicant response states, "Should he be unable to contact the person on call as Alternate Emergency Coordinator, the guard will call the Grant Parish Sheriff Department, the Colfax Fire Department, or the Parish Ambulance Service, as appropriate." The applicant must be able to contact an emergency coordinator at all times.

This information has been revised. The Primary Emergency Coordinator or one of the Alternate Emergency Coordinators can be contacted at all times.

*Appendix 4 -
LAC 33:V.1513.B.2*

The applicant must indicate the primary and secondary contacts and describe the arrangements agreed to by the local law enforcement, fire departments, hospitals, contractors and state and local emergency response teams, etc.

The facility has described the coordination agreements in detail and has provided a copy of the Contingency Plan to the agencies identified in the plan.

*Appendix 4 -
LAC 33:V.1513.B.4*

The applicant must provide the addresses of all emergency personnel.

This information has been included in the Contingency Plan (which is now located in Appendix I).

*Appendix 4 -
LAC 33:V.1513.B.5*

The applicant must include the locations of all emergency equipment and provide a physical description of each item and a brief outline their capabilities. A diagram or map should be provided indicating the location of all emergency equipment.

This information is included in the Revised Contingency Plan (Appendix I).

*Appendix 4 -
LAC 33:V.1513.B.6*

The applicant must explain the procedures the emergency coordinator will order in an evacuation. A map or diagram must be provided indicating the primary and secondary evacuation routes.

This information is included in the revised Contingency Plan (Appendix I).

*Appendix 4 -
General Comments*

The contingency plan must list the guard on duty as an alternate emergency coordinator. The applicant must clarify whether the guard meets the requirements outlined in LAC 33:V.1513.E.

The security guard does not meet the requirements of an alternate emergency coordinator. The job of the security guard, should there be an emergency during non-working hours, is to notify the appropriate emergency coordinator or alternate coordinator via telephone. One of these personnel (identified in the Contingency Plan) will then take the appropriate actions, including the implementation of the Contingency Plan, if necessary.

The contingency plan does not list the following waste codes included in the part A permit application: D004, D006, D007, D008, D010, D011, K045, P112, U088, U096, U108, and U160.

This information has been added to the revised Contingency Plan.

The 24-hour notification hotline is manned 24 hours a day, 7 days a week. Further information on reporting requirements for spills, releases, and emergencies can be viewed at: http://deq.state.la.us/surveillance/spoc_procedures.htm

The facility is aware of the reporting requirements and will implement them accordingly, should the need arise.

The contingency plan makes no mention of the fire disk, tractor, pump, or water hoses.

The revised Contingency Plan includes all emergency equipment currently available at the facility.

The applicant must specify whether the guard is on duty at all times and explain the differences in the two evacuation routes. These routes must be clearly marked on the map.

The security guard is on duty during non-operating hours only. He is available to contact one of the Emergency Coordinators in the event of a situation that warrants it. The security guard does not have the responsibility or authority to implement the Contingency Plan. That responsibility remains with the Emergency Coordinator or one of the alternates. The evacuation routes are marked on the maps attached to the Contingency Plan (Figure 3). The primary evacuation route involves the use of the main gate to the operating area. In the event that that gate is somehow not able to be accessed by facility personnel during an emergency, the egress gate at the northwest side of the perimeter will be utilized.

Spill Equipment must provide the usual location for "mobile" equipment. The list must also describe spill kit and its contents.

The revised Contingency Plan (Appendix I) includes all the appropriate information.

Appendix 4 -
LAC 33:V.1513.E

The applicant response must describe whether the emergency coordinator meets the requirements of this regulation.

This information has been clarified by the response included in the revised application.

Appendix 4 -
LAC 33:V.1513.F.2

The applicant must explain how the coordinator will evaluate the character, source, amount, and areal extent of materials involved in a release, fire, or explosion.

This information has been clarified by the response included in the revised application.

LAC 33:V.1515

The qualifications for the operations manager state, "Minimum four technical or business degree or from an accredited college or university, or equivalent." The qualification statement must be revised.

It should have stated "...four-year technical or business degree..." The information has been corrected in the personnel files.

The training programs must explain the qualifications of the person responsible for teaching the hazardous waste management procedures and provide a brief summary of the annual workshops demonstrating the procedures for inspecting, etc. and other training programs required for employees. The applicant must explain the procedures for response personnel and the procedures, equipment and systems implemented during an emergency.

The revised Training Plan (Appendix K) describes these items in greater detail.

LAC 33:V.1515.A.3.f The applicant must respond to this regulatory requirement.

The response to this regulation was included on page 15-43 that was apparently missing from the Department's copy of the original application. (See below).

General Comment Page 15-43 is missing from the application.

This page has been included in the revised application.

LAC 33:V.1515.D.3 The training requirements for this regulation must be submitted.

This information is described in greater detail in the Training Plan (Appendix K).

LAC 33:V.1517.B.1 The applicant must explain how the temperature during the treatment of the waste is maintained as low as possible to minimize the potential for an uncontrolled burn and explain how minimization of potential for violent reactions are achieved.

A revised explanation is included in the text of the application. In general, the rates of burning are based on operating knowledge and experience. Various wastes are burned in quantities that will limit the potential of an adverse reaction such as a major explosion, while maintaining the necessary temperature levels to accomplish the desired treatment.

LAC 33:V.1517.B.2 The applicant must explain how the prevention of reactions which produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment is achieved. Explain any monitoring procedures or requirements.

There are a number of factors involved with the prevention of reactions which produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human

health or the environment. The operating practices have been described in greater detail in the text. In general, this goal is accomplished by a combination of operating expertise and knowledge of the anticipated reactions that will be caused during the thermal treatment of different wastes. In addition, it is the facility's standard practice that wastes are not processed during windy conditions (> 10 mph) or other adverse weather conditions. The distance to the fence line from the operating area also plays a role in reducing the risks to human health and the environment.

LAC 33:V.1517.B.3 Explain how the flammable fumes or gases produced during treatment are consumed during treatment.

A more detailed response has been included in the text for this section.

LAC 33:V.1517.B.4 Explain how the design and structure of the device, unit or facility can reduce the potential for an uncontrolled or unplanned fire or explosion that could occur and destroy or damage facility structures.

Additional explanation has been included. Details involving the design of the storage magazines (to meet ATF standards), the placement of the storage magazines, and the design and operation of the thermal treatment unit itself all contribute to a reduction of the potential of an uncontrolled or unplanned fire or explosion that could destroy or damage the facility structures. It should be noted that the facility has an excellent operating record and has not previously experienced such events during its permitted life.

LAC 33:V.1519.A.4 The applicant must specify procedures for the initial waste screening including how the waste is checked, what the waste is checked for, and if the waste is weighed.

This information is described in greater detail in the text of this section and in the Waste Analysis Plan (Appendix G).

LAC 33:V.1519.A.4 Section 2.4 of the WAP states, "If necessary, the analyses used to determine acceptability of the waste will be reviewed to ensure that the waste received is consistent with original representations." This is not acceptable. The applicant must revise this portion of the WAP.

This portion of the Waste Analysis Plan has been revised.

LAC 33:V.1519.B.1-2 For outgoing waste, the WAP must specify the rationale for the sampling parameters and the analytical methods employed.

The WAP and the attached "Ash Management SOP" describe this rationale in detail.

LAC 33:V.1519.B.5 The outgoing waste section of the WAP must include QA/QC procedures used to ensure the waste sampling is satisfactory.

The QA/QC procedures are described in detail in the revised Waste Analysis Plan (Appendix G).

LAC 33:V.1519.B.6 The WAP must include an example of the waste profile form provided by generators. The form must include the data required by LAC 33:V.1519.

The WAP (Appendix G) includes the Waste Profile Sheet as an attachment.

LAC 33:V.1519.B.9 The applicant must respond to this regulation.

A response to this regulation is included in the revised application.

LAC 33:V.1519.D The waste analysis plan has not been certified by a Louisiana licensed professional engineer.

The necessary certification is included as an attachment to the Waste Analysis Plan (Appendix G).

LAC 33:V.1527.D.1 The regulation states that loading and unloading facilities are considered part of the facility operations. The applicant must acknowledge this part of the regulation.

An acknowledgement of this portion of the regulation is included in the response to it.

LAC 33:V.1529.B.20 The applicant must respond to this regulation.

The new application contains a response to this regulation. This regulation is not applicable to the facility since it is not a remediation waste management site.

LAC 33:V.2111.B.1 The applicant's response must include the measures taken to make the concrete impervious to liquid spills.

Additional details have been included in the response.

LAC 33:V.2111.B.3 The applicant must explain how the design of the vent hood prevents rainwater from entering the storage magazines.

The cap (turned down elbow) that exists over each vent makes it virtually impossible that any rainwater could enter the storage magazines. No instances of water infiltration have occurred since the storage magazines were installed at the facility.

LAC 33:V.2111.B.3 The secondary containment calculations for storage magazines 8, 9, and 10 must be included in the permit application. In addition, the applicant must further explain the design and purpose of the floor vents on these magazines.

The secondary containment calculations are included in Appendix S. The design and purpose of the floor vents are explained in this section and others. The ATF requirements for storage magazines, which are included in Appendix R, necessitate the design of the units.

LAC 33:V.2111.B.3 The applicant's response states that the storage magazine/truck staging area measures 107'X16'. Figure 7 shows the dimensions as 107'X27'. The correct dimensions must be provided. In addition, Figure 7 does not indicate the height of the secondary containment walls.

Drawing # 108 (formerly Figure 7) is correct, and the previous text incorrectly stated that the width is 16 feet. As shown in the drawing, Section B-B, the curbs are a minimum of 6 inches high. The previous text incorrectly implied that the curbs are 16 inches high. The information has been corrected in the revised application.

LAC 33:V.2111.B.3 Appendix 10 must include containment calculations for the truck staging area in front of storage magazines 8, 9, and 10. Appendix 10 must also contain containment calculations for storage magazines 8, 9, and 10. The containment calculations in Appendix 10 must be detailed and include calculations for total volume.

Since the previous application was submitted in 1997, Clean Harbors Colfax, LLC has implemented the use of portable spill containment skids for use within the liquid waste storage magazines. Each skid is adequate to contain two 55-gallon drums. This method is now used for secondary containment. However, the magazine containment calculations are included in Appendix S.

LAC 33:V.2111.C

The applicant must respond to this regulatory requirement.

The response to this regulatory requirement is included in the revised application.

LAC 33:V.2117

The applicant must correct the regulatory citation.

The regulatory citation is included *verbatim* from the LDEQ's web-site.

General Comments

If the applicant has tanks on-site the application must address the tank regulations.

The facility does not have any tanks on-site that are used to store hazardous wastes from off-site locations; therefore, the tank regulations do not apply.

LAC 33:V.3203

The applicant must provide the following information related to the design of the burn units:

- *Distance between burn units*
- *Amount of waste burned in each unit*
- *How many units burn waste simultaneously*
- *Secondary containment of the burn area*
- *How debris is prevented from flying out of the units*
- *What is put into a burn chamber vs. what is put into a burn pan*
- *Determination standard for changing the pans and chambers*
- *Whether the steel mesh cover of the burn chamber is connected to the chamber or laid on top*

This information has been included in the response, to the extent that it is applicable.

LAC 33:V.3203

The applicant must explain whether it has the capabilities to quantify the amounts of the RCRA metals, chlorine/chlorides, and particulates burned at any given time.

The thermal treatment process is not intended to burn RCRA metals or other non-reactive waste components. Incidental quantities of particulates and other matter may be consumed simultaneously during the treatment process, but these amounts would be expected to be negligible. The facility's air permit requires monitoring for ammonium perchlorate only; therefore, data on other constituents that may be burned is not quantified. Appendix U provides other pertinent details related to air dispersion modeling. During the modeling

process, very conservative assumptions were made to assess risks. Based on the assessment, the potential risks associated with the facility are considered minimal.

LAC 33:V.3203.A & B If Appendix 8 is meant to supply the required information regarding site hydrology and geology, the entire document must be provided for review.

The entire document is included in the revised application in Appendix U.

LAC 33:V.3203.A.1 The applicant states that "emission rates were below levels which would pose a potential hazard to human health via the atmospheric dispersion. Based upon this result the treatment units will not have a human health impact via groundwater or subsurface soil." The applicant must explain this statement and the relation of air dispersion characteristics to water and soil contamination.

This information is explained in detail in Appendix U.

LAC 33:V.3203.A.9 The applicant states that "access by birds and other wildlife is not a critical concern...wastes are securely enclosed and stored...until treatment." The applicant must consider the access of wildlife during actual waste treatment.

Information has been added to the response to LAC 33:V.3203.B.11 to address this comment. Due to nature of the treatment process, a considerable amount of noise (from the detonation of the waste) is produced near the burn unit. As a result, it is highly unlikely that birds or other wildlife will venture into the area during the actual waste treatment process. Typically, birds and other wildlife avoid the area, especially during the treatment process.

LAC 33:V.3203.B.7 The applicant must provide details of the current and potential uses of nearby surface water.

The section has been updated to include additional information. Section 3 of the Environmental Assessment Report (Appendix U) contains more detailed information regarding the nearby surface waters.

LAC 33:V.3203.C.1 The applicant must explain the determination of constituents and the amounts of each released to the air during burning.

Additional details are provided in the Environmental Assessment Report (Appendix U).

LAC 33:V.3205 The applicant must respond to all parts of this regulation.

The responses to the individual sections referenced by this regulation have been revised to more fully explain the facility's compliance with each section.

LAC 33:V.3205 As a condition of operation, the applicant shall continue to conduct an annual soil monitoring program in order to ensure compliance with LAC 33:V.3203 and 3322. Specific deficiencies regarding the soils monitoring plan are as follows:

"Soil Monitoring Plan" – Soil samples taken for VOCs must be collected in accordance with USEPA SW-846 Method 5035; VOC soil samples must be analyzed in accordance with Method 8260B. The applicant must ensure that the method utilized for all analyses will provide sample quantitation limits at or lower than any risk-based corrective action level (i.e. RECAP Screening Standard, background level, or other derived RECAP standard). All analyses must be performed by a laboratory that has LDEQ accreditation for the parameters being measured.

The facility agrees to have all analyses performed by a laboratory that has LDEQ accreditation, and the facility anticipates that RECAP standards will be utilized to determine compliance. The appropriate or applicable SW-846 methods for collecting and analyzing samples will be utilized.

LAC 33:V.3207 See comments on LAC 33:V.Chapter 35, in Item 101.

Although the facility is unclear as to the reference to "Item 101," the responses to this section have been revised to address the regulation, as the facility understands it.

LAC 33:V.3207.B-C The applicant must respond to these regulations.

The facility has responded to these regulations.

LAC 33:V.Chapter 33 The requirements of this chapter must be addressed as they pertain to any Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs), including the previously identified "Old Burn Unit". For the purposes of the Miscellaneous Unit, the requirements of LAC 33:V.3322 shall be applied in lieu of LAC 33.V.3303-3321.

The facility has responded to the regulations of LAC 33:V.Chapter 33 as they apply to any Solid Waste Management Units, including the Old Burn Unit.

LAC 33:V.Chapter 35

The applicant must submit a stand-alone closure plan addressing the requirements of §3511, including:

- *All closure samples must be collected in accordance with the procedures outlined in LDEQ's "Risk Evaluation / Corrective Action Program (RECAP)" document, latest edition, where applicable;*
- *Soil samples taken for VOCs must be collected in accordance with USEPA SW-846 Method 5035; VOC soil samples must be analyzed in accordance with Method 8260B. The applicant must ensure that the method utilized for all analyses will provide sample quantitation limits at or lower than any risk-based corrective action level (i.e. RECAP Screening Standard, background level, or other derived RECAP standard). All analyses must be performed by a laboratory that has LDEQ accreditation for the parameters being measured;*
- *For the purposes of demonstrating "clean closure", sample results must be compared to RECAP values. For naturally occurring constituents (e. g. metals) sample results may be compared to background levels; for non-naturally occurring constituents (e.g. VOCs and extractable explosives), sample results must be compared to the RECAP Screening Standards, unless a higher tier of RECAP evaluation is performed and approved by LDEQ. Where background levels are utilized for comparison, background levels must be developed in accordance with RECAP guidelines;*
- *In addition to the soil samples proposed for each unit, additional sample locations and intervals may be required to ensure all surrounding and underlying soils have been adequately characterized;*
- *At closure, groundwater sampling may be required, depending on the results of soil sampling;*
- *The closure plan should address contingent closure and post-closure requirements in the event that not all structures and media can be adequately decontaminated.*

A stand-alone Closure Plan has been developed and is provided in Appendix L. This plan addresses the requirements of LAC 33:V.3311.

LAC 33:V.3509.A The applicant must provide third party cost estimates and cost for off-site treatment.

The cost estimate provided in Appendix L has been updated to address this comment.

LAC 33:V.3511 The applicant states, "The treatment area concrete pad will be cleaned with mechanical sweepers or other appropriate means." The applicant must explain what other appropriate means encompasses.

"Other appropriate means" might include manual sweeping or scraping, as needed, to ensure that all residues are removed to the extent practical.

LAC 33:V.3511 The applicant must specify the rinsate sampling criteria and the levels required to achieve clean closure.

The Closure Plan in Appendix L provides details on rinsate sampling criteria and the levels required to achieve clean closure.

LAC 33:V.3511 The closure plan mentions SW-846 Method 8333. No such method exists. This method must be replaced with an updated SW-846 method. In addition, all sampling and analytical methods must be listed in the closure plan.

This method number has been corrected, and the other sampling and analytical methods are referenced in the revised Closure Plan.

LAC 33:V.3511 The closure plan states that the wood from the storage magazines will be disposed of by burning in the open burn pits. This is not an environmentally sound practice. The applicant must revise the plan.

The facility believes that this treatment method represents a feasible and safer option when compared to the option of disposal by another method, such as incineration. Although it is unlikely that any of the wood will be contaminated with explosives residue, the facility is working under the worst case scenario that it will be so contaminated. As a result, the facility continues to believe that this option is best. If the material contains explosives residue,

landfilling is not an option, and incineration inside a combustion unit may cause an explosion. Since the facility is permitted to manage similar materials in this manner, there is no reason to believe that the open burning/open detonation of the wood would produce any unacceptable environmental risks.

LAC 33:V.3511 The closure plan states that decontamination is expected to generate a gallon of solvent. The solvent will be containerized and allowed to evaporate onsite. This is not an environmentally sound practice. The applicant must revise the closure plan.

This portion of the plan has been modified to reflect a more appropriate method of disposal for any rinsate that may result from the closure activities.

LAC 33:V.3511 The closure plan states, "It will be analyzed for VOCs, total metals, and extractable organics by SW-846 method 8330." SW-846 Method 8330 is valid only for explosives. The other analytical methods must be included in the closure plan.

The analytical methods have been included/corrected throughout the Closure Plan (Appendix L).

LAC 33:V.3511 The applicant must describe the procedure it will use to collect the rinsate in order to ensure a representative sample.

Details on collecting the rinsate samples have been included in the Closure Plan (Appendix L).

LAC 33:V.3511.B.3 The closure plan states that the maximum inventory of untreated waste is provided in Table II of Part I. This table could not be located in the permit application. The applicant is requested to provide a copy of the table.

The Closure Plan (Appendix L) contains this information.

LAC 33:V.3511.B.4 The closure plan must specify what type of application is appropriate for washwaters.

The response to this section has been revised to address this comment.

LAC 33:V.3511.B.4 The closure plan must indicate what method will be used to collect the soil surface sample after collection of spilled material.

No spills are anticipated during closure activities, but should they occur, the facility will utilize QA/QC procedures as specified in the Waste Analysis Plan for collection of any samples that may become necessary. Details on the collection of surface soil samples are provided in the Closure Plan (Appendix L).

LAC 33:V.3511.B.4 The closure plan must indicate what steps are implemented if the confirmation sample contains constituents above background concentrations.

The Closure Plan (Appendix L) has been revised to address this scenario.

LAC 33:V.3511.B.8 The applicant must respond to this regulation.

The response is included in the revisions to this section.

LAC 33:V.3511.C.5 The applicant must respond to this regulation.

The response is included in the revisions to this section.

LAC 33:V.3517.A Within 60 days of final closure, all owners/operators must submit a certification of closure to the administrative authority.

The response to this section has been changed to include the submittal of a certificate of closure to the administrative authority within the required time frame.

LAC 33:V.Chapter 37 The applicant must provide financial assurance adequate to address the corrective action requirements of LAC 33.V.3322, as applicable.

Financial assurance to cover the work associated with the Risk Based Corrective Action Evaluation Workplan for "Old Burn Area" is included in Appendix N. No other corrective action is anticipated at this time.

LAC 33:V.3705.A The applicant must provide a detailed written estimate, in current dollars, of cost of closing the facility.

The following inconsistencies are located in the closure cost estimate:

- For the decontamination of the preparation building, the washwater disposal is listed at 500 gallons, but only 400 gallons are included in the cost.*
- For the truck staging/containment areas, the washwater disposal is listed at 1000 gallons, but only 800 gallons are included in the cost.*

The closure cost estimate must include the following items from the closure plan:

- *For waste containers-thermal treatment, crushing, and containerizing for disposal*
- *Torching the magazines*
- *Repetition of decontamination or disposal as hazardous waste of magazines and treatment pad (whichever is more expensive)*
- *Cleaning of hand tools*
- *Confirmation soil samples after soil excavation*
- *Soil samples around treatment are*
- *Costs to collect samples*
- *Multiple analysis per sample*
- *Cost for closure supervisor*

The Closure Plan and the associated closure cost estimate have been revised to address these comments. The Closure Plan is included at Appendix L, and the financial assurance documentation is included in Appendix N.

LAC 33:V.3705.A.2 In order to use on-site disposal in the closure plan, the applicant must demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

This comment is addressed in the response to the referenced regulation. Since there is no lifetime capacity limitation at the facility, there is no reason to believe that on-site disposal capacity will not exist at all times over the life of the facility.

LAC 33:V.3707.E The applicant must provide a copy of all financial assurance documentation.

The financial assurance documentation is included in Appendix N.

LAC 33:V.3711 The applicant must respond to this regulatory requirements. If a regulation is not applicable the applicant must provide a brief explanation to why the requirement is not applicable to this facility.

At the end of this regulatory section, it states that the section is not applicable because the facility does not meet the definition of a facility that requires Post-Closure monitoring as described by LAC 33:V.3709. In short, the facility does not dispose of waste; therefore, there will be no residual wastes remaining on-site beyond closure. As a result, the section does not apply.

LAC 33:V.3719

The applicant must respond to this regulatory requirement. The wording of the financial and insurance instrument must be provided.

The facility included its response at the end of the section, and financial assurance documentation including the appropriate wording is located in Appendix N.

LAC 33:V.4533

The applicant must explain whether it complies with this regulation.

The buffer zone surrounding the permitted units is more than adequate to meet this regulation.

General Comment

All maps must be legible, to scale, contain a north arrow and a legend. All maps must contain all the information required in the applicable regulations. When possible maps should be in color. Maps should indicate the property boundaries.

All maps have been reviewed and updated to meet these requirements.

Table 4

The applicant must include the following:

- *amount of stored waste to be transferred*
- *the waste preparation and any cost associated with these preparations*
- *the method of treatment for waste inventory, the amount of inventory and all cost associated with the treatment of waste and disposal off-site; costs must include labor, rental and transpiration and the number of labors required to preform each closure task*
- *the measurements and dimensions of all surface areas (i.e., floors, walls, containment areas, treatment area slab and container storage area, etc.) to be decontaminated and the calculations of washwater generated during decontamination*
- *a list of equipment used, the decontamination of each piece of equipment must be provided and the amount and calculations of the wastewater generated must be provided*
- *the amount of ash and spill residue to be removed and all cost associated with the removal, treatment and disposal of this waste must be provided*
- *costs associated with the removal of the burn units and burn pads, the disassembling, treatment and disposal costs must be provided*
- *the cost for removal, treatment and disposal of the waste in the Polyethylene Tank and the decontamination or scrapping and disposal of the Tank must be provided*

Mr. Michael Vince

August 13, 2003

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- *costs for the excavation of contaminated soil that include labor, PPE, equipment and disposal must be provided*
- *a list of equipment (i.e., front end loaders, sweepers, trucks, pressure washers, etc.) PPE and supplies used at closure; and the cost of rental per day for each piece of equipment needed to close each unit; the calculations of these costs must be provided*
- *the number of washwater and soil samples taken for each unit and all costs associated with the soil sampling (i.e., soil boring, rental, lab, etc.) must be provided.*

The Closure Plan (Appendix L) has been completely revised to address the items listed above. Additional cost estimates are included, and the financial assurance coverage in Appendix N covers the revised estimate.

Appendix 2- WAP

The applicant must include a Waste Characterization Data Sheet (WCDS) and an account of all components of the waste.

The facility has included an example of the Waste Profile Sheet utilized for determining and/or documenting each component of each waste stream that may arrive at the facility. This document is included as an attachment to the Waste Analysis Plan (now located in Appendix G).

Clean Harbors Colfax, LLC looks forward to working with the Department as this application proceeds toward renewal of the operating permit for the facility. If, in the meantime, however, the Department has any questions concerning the enclosed information, please do not hesitate to contact me at (225) 778-3570.

Sincerely,



Paul L. Andrews

Sr. Compliance Manager

Clean Harbors Environmental Services, Inc., Louisiana Facilities

Enclosures (RCRA Permit Renewal Application-5 complete copies)

cc:

Ms. Cathy Carter (w/enc, 1 complete copy)

Mr. James Gallion (w/enc, 2 complete copies)

Mr. Tom Emond (wo/enc)

c:\doc\ltr2003\colfaxnod.doc

USEPA-Region 6

Clean Harbors Colfax, LLC

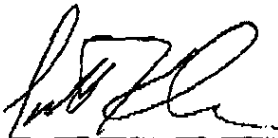
Clean Harbors Environmental Services, Inc.

APPENDIX A
CERTIFICATION STATEMENT

CLEAN HARBORS COLFAX, LLC
CERTIFICATION STATEMENT

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



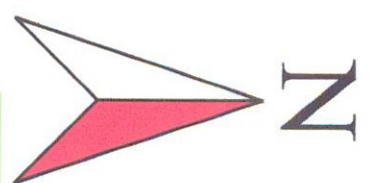
Scott Kuhn
Vice President of Environmental Compliance
On behalf of
Clean Harbors Colfax, LLC.

8/23/05

Date

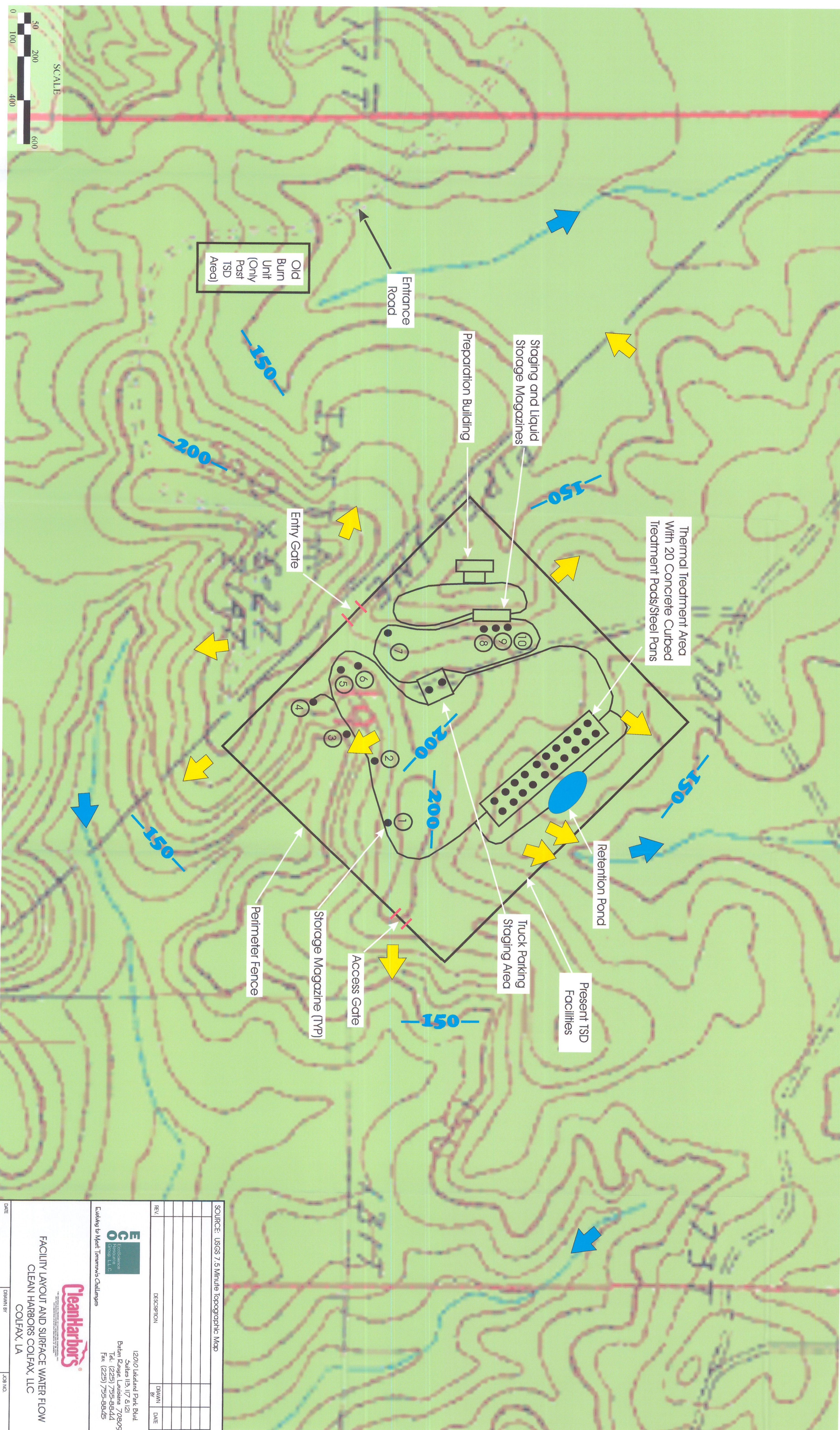
APPENDIX B

Revised Drawing 103 to indicate past and present TSD Units



LEGEND

- 20 — CONTOUR MEAN SEA LEVEL (feet)
- HOUSES AND OTHER BUILDINGS
- MEDIUM DUTY ROADS
- LIGHT DUTY ROADS
- DIRT ROADS
- SURFACE WATER FLOW
- DRAINAGE



SCALE

Old Burn Unit (Only Past TSD Area)

Entrance Road

Preparation Building

Storage and Liquid Storage Magazines

Thermal Treatment Area With 20 Concrete Cubed Treatment Pods/Steel Pans

Retention Pond

Present TSD Facilities

Truck Parking Staging Area

Access Gate

Storage Magazine (TYP)

Perimeter Fence

Entry Gate

SOURCE: USGS 7.5 Minute Topographic Map

REV.	DESCRIPTION	DRAWN BY	DATE	APPROVED BY

ECO
Environmental
Consultants, LLC
12010 Lakeland Park Blvd
Suite 113, 117 & 120
Baton Rouge, Louisiana 70809
Tel. (225) 755-8644
Fax (225) 755-8645

Evolving to Meet Tomorrow's Challenges

CleanHarbors
The Environmental Remediation Experts

FACILITY LAYOUT AND SURFACE WATER FLOW
CLEAN HARBORS COLFAX, LLC
COLFAX, LA

DATE	8/22/05	DRAWN BY	J.S.	JOB NO.	11705
SCALE	AS SHOWN	APPROVED BY	J.S.	DRAWING NO.	103

**Compliance with the Seismic Standard (LAC33:V:517.T)
Clean Harbors Colfax, L.L.C.**

In order to evaluate the Colfax facility for seismic activity within Holocene time (10,000 B.P.), federal regulations, published geologic studies, aerial photographs and topographic maps were examined. Supplemental information is attached for reference and becomes part of Appendix D.

Federal Regulations

The Federal Register (40 CFR –Chapter I-Part 264, Appendix VI) was reviewed. Appendix VI contains political jurisdictions in which compliance with 264.18(a), the seismic standard, must be demonstrated. Louisiana is not listed. Therefore the federal regulations demonstrate that the requirements of the section do not apply as per LAC 33:V.517.T.1.a.i.(a).

Geologic Studies

The site is approximately 3.5 miles north of Colfax. According to the Geologic Map of Louisiana (1984), the site is underlain by Quaternary Pleistocene Age soils (>10,000 years B.P.). The presence of faults in these soils does not indicate that there has been seismic activity within Holocene time.

There are no known major faults defined in Grant Parish according to the publication entitled, Earthquakes in Louisiana, by Donald Stevenson and Richard McCulloh (Louisiana Geological Survey Public Information Series No. 7). The Geologic Map of Louisiana (1984) depicts the outcropping geologic formations in Grant Parish and does not indicate the presence of faults of any age in Grant Parish within 5 miles of the site.

The publication, Geology of Grant and LaSalle Parishes (Louisiana Geological Survey (LGS) Geological Bulletin No. 10, 1938) indicates one probable fault in T.7 N., R.1.E at the base of the Jackson Group (Upper Eocene) at 500 to 1,000 feet below mean sea level. This fault is not apparent in the overlying Catahoula Formation (Miocene) and therefore must be older than the Miocene age strata. Marginal folding and associated faulting is described as occurring from post-Miocene to late Pleistocene time. The Geological Map of Grant Parish in LGS Bulletin No. 10 does indicate the presence of faults in the Pleistocene outcrop underlying the site.

Aerial Photographs

Fault structures may be visibly identified as straight or gently curving lineaments (linear features) from aerial photographs. An aerial photography company (Gulf Coast Aerial Mapping) was asked to search for historical and recent photographs of the site and within a 5-mile radius of the site. None were available. Recent aerial photographs were printed from the Louisiana Department of Natural Resources web site. Two different scales were printed for the 5-mile radius and 3,000-foot radius. Examination of this photograph for lineaments indicative of fault scarps within 5 miles or a 3,000-foot radius of the site did not indicate evidence of fault structures. A series of adjoining photographs were taken to the Louisiana State University Geology Department and viewed under a stereoscope.

Stereoscopic vision creates a three-dimensional effect to see length, width and depth. Fault lineaments or scarps with relief would be discernible. No fault structure was evident within 5 miles or a 3,000-foot radius of the site.

Topographic Maps

Faults are typically indicated by linear or gently curving fault-lines with offset from the upthrown side to the downthrown side so topographic relief is apparent. The site slopes in numerous directions toward the lower areas in what appears to be sinuous erosional features. No distinct offset relief in a linear or gently curving pattern is evident.

In my opinion, there is no evidence that Holocene age faults are present within 5 miles of the Colfax facility based on this geologic study. I have 25 years of experience as a geologist and geophysicist in fault identification and delineation.

Alleged Fault

The possible presence of a fault from a geophysical survey was described in the Environmental Assessment Report (Appendix U). Copies of the interpreted seismic lines 100 and 400 and a location map are attached. These and all referenced attachments are now included in Appendix D. The alleged fault is shown bisecting the southernmost corner of the Burn Pad. In my opinion, the data quality was too poor to interpret a fault. There is no shallow continuity of reflectors and no definitive offset of reflectors. Attached is a high-resolution seismic reflection record from a data set that I analyzed and interpreted. This record is one of hundreds that I have acquired and interpreted over the past 25 years. As shown, the shallow and deep reflectors are offset by the interpreted fault. Comparison of the site survey records to this record indicates that the site records were inconclusive and the interpretation of a fault was not appropriate.

Further review of the Environmental Assessment Report (Appendix U) indicates that geologic cross-sections and interpretations did not indicate the presence of a fault by correlating the seismic data and soil boring logs. Cross-sections P-2 to MW-2 and P-1 to P-2 bisect the alleged fault plane. Both indicate that the uppermost sandstone unit is continuous across the alleged fault plane. A fault would offset this unit so that the unit would not appear to be continuous or the same relative depth across the lines. Both indicate the presence of a sand channel that is apparent in the seismic lines but there is no mention of a fault. The sand channel likely caused the disruption in reflectors misinterpreted as the possible fault in the geophysical survey report. In cross-section P-1 to P-2, the lower confining unit is present below the lower aquifer. A fault would offset this unit and the unit would not appear to be continuous.

I inspected the specific area where the seismic data was collected again on August 2, 2005. Photographs are attached. The southernmost corner of the Burn Pad covers most of the alleged fault line. There is no evidence of activity either by the presence of a scarp or damage to the concrete pad. The lower elevation of the Burn Pad area relative to the bluff to the west is apparently a natural erosional feature apparent throughout the region. The Burn Pad would exclude further investigation of the alleged fault by trenching and drilling. Drilling exploratory borings would not conclusively determine the presence of a

fault as intersection and identification of the fault plane is improbable in consideration of the normal fracturing due to compaction associated with Quaternary Terrace formations in Louisiana. There was no evidence of fault offset or fault plane intersection in the previous geologic borings.

Even if a fault were present, the outcropped formation is older than 10,000 years B.P. and would not represent Holocene activity. The geologic interpretation of the site in the Environmental Assessment Report (Appendix U) must have been acceptable to regulators as the original permit was approved with the information regarding the potential fault.

In summary and in my opinion, the geologic information and results of my site inspections and data evaluation do not support the presence of a fault in the seismic study area.



Peter B. Lee, P.G., P.H.

Principal Hydrogeologist

EcoScience Resource Group, L.L.C.

Registered Professional Geologist in Arkansas No. 1132 (1991)

Registered Professional Geologist in Mississippi No. 574 (1999)

August 22, 2005



South side of Burn Pad



South corner of Burn Pad. Alleged fault would be under this corner.



Burn Pad slab from south side over area with alleged fault



Burn Pad slab over alleged fault. There are no displacement cracks.



Natural bluff to the south of south side of Burn pad.



Bluff to the west of south corner of Burn Pad



South corner of Burn Pad



West side of Burn Pad



South corner of Burn Pad



View toward west bluff from Burn Pad elevation

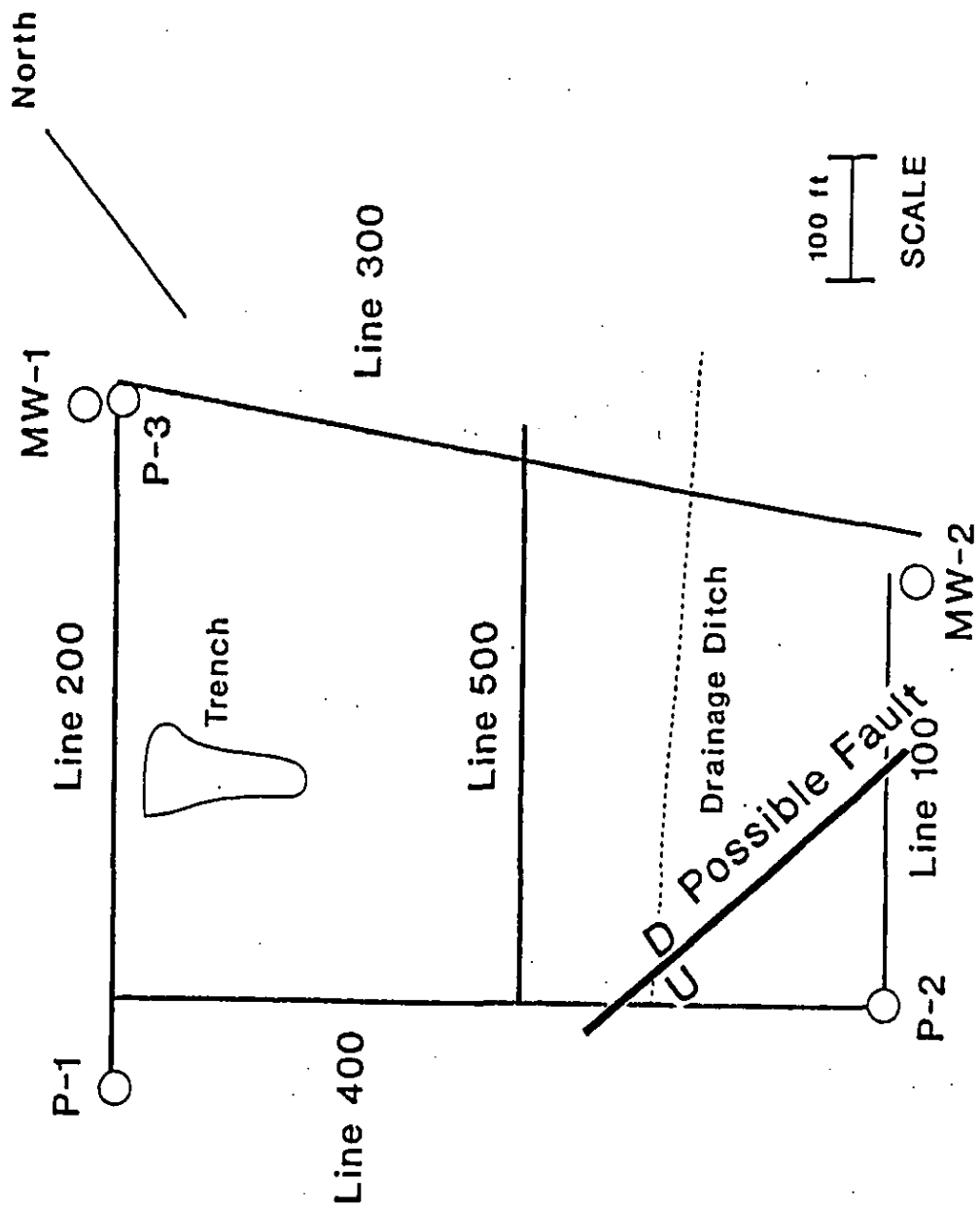
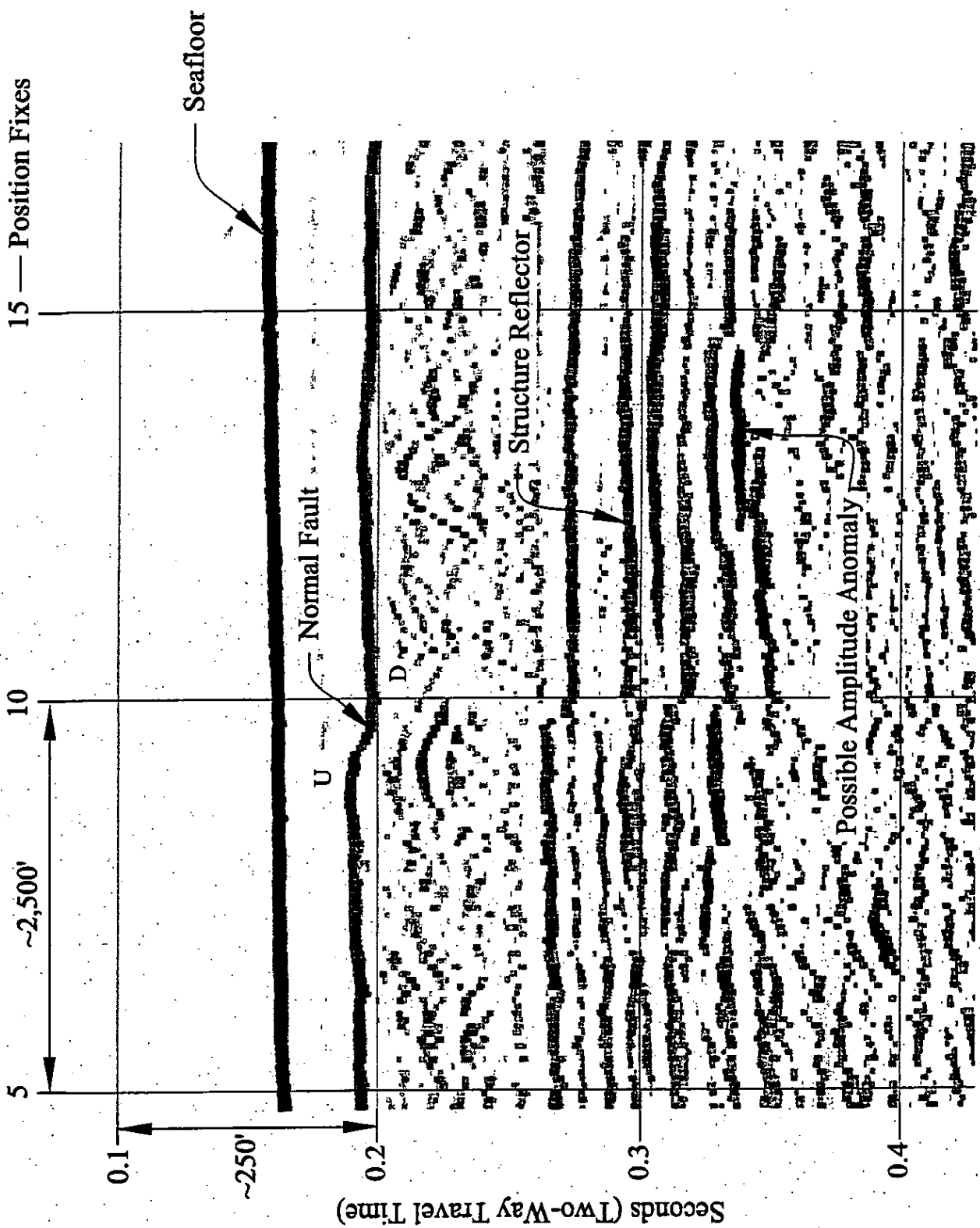


FIGURE 14

GEO SIGNAL

03
L
G
C
L
L



Analog Seismic Record of Survey Line No. 0001

APPENDIX I

CONTINGENCY PLAN

CLEAN HARBORS COLFAX, LLC

CONTINGENCY PLAN

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APPENDICES

APPENDIX

- | | |
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COPIES OF THE CLEAN HARBORS COLFAX, LLC CONTINGENCY PLAN

Official copies of the approved Contingency Plan (approved by the Louisiana Department of Environmental Quality) can be found at the locations indicated below. Whenever this Contingency Plan is modified, revisions will be provided in order to replace all copies of the Plan.

Clean Harbors Colfax, LLC, Colfax, Louisiana:

- General Manager's Office
- Operation Manager's Office
- Guard's Office
- Control Room at Burn Unit

Additionally, copies of the Contingency Plan will be provided to the following organizations:

Louisiana Department of Environmental Quality
Hazardous Waste Division
Baton Rouge, Louisiana

Grant Medical Center
Colfax, Louisiana

Grant Parish Sheriff's Office
Colfax, Louisiana

Colfax Volunteer Fire Department
Colfax, Louisiana

Grant Parish Office of
Louisiana Emergency Preparedness Committee (LEPC)
Colfax, Louisiana

Louisiana State Police Emergency Response
Baton Rouge, Louisiana

I. INTRODUCTION AND PURPOSE

This Contingency Plan has been prepared in accordance with the State of Louisiana Hazardous Waste Regulations (LAC 33:V.1513) and as required by the hazardous waste permit for the facility. The Contingency Plan was approved along with the general permit to operate a TSD facility by the USEPA, Region 6 and the Louisiana Department of Environmental Quality on May 16, 1993. The purpose of this plan is to document procedures designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned, sudden or non-sudden release of hazardous waste to air, soil or surface water at the Clean Harbors Colfax, LLC facility. Provisions of the plan will be implemented immediately whenever there is a fire, explosion or the release of hazardous waste, which could threaten human health or the environment.

II. GENERAL INFORMATION

This Contingency Plan has been prepared for the Clean Harbors Colfax, LLC facility located on Louisiana Highway 471, 5 miles northeast of Colfax, Louisiana.

Clean Harbors Colfax, LLC specializes in the thermal treatment of hazardous waste explosives and reactives. Residues are collected and sent to proper disposal facilities.

Every effort has been made to anticipate any fire, explosion or unplanned, sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or surface waters that could occur at this facility.

A. Hazardous Waste Units

The hazardous waste units at Clean Harbors Colfax, LLC include 10 storage magazines (explosives), 20 treatment units on a concrete pad, one truck staging building, one unloading building, and one preparation building. The locations of these facilities and general facility layout are shown on Figure 2. Figure 1 shows the approximate location of the facility in Grant Parish.

B. Hazardous Wastes

The specific hazardous wastes handled for treatment at Clean Harbors Colfax, LLC are listed in the Part A Application for the facility. Essentially all incoming wastes are hazardous and include the D003 EPA waste code designation. The materials are explosive or otherwise reactive and may also be flammable. The following EPA waste codes may be managed at the facility: D001, D002, D003, D004, D005, D006, D007, D008, D010, D011, D030, K044, K045, K046, P009, P048, P065, P081, P105, P112, U069, U088, U096, U105, U108, U115, U117, U133, U160, and U234. The following excerpt from the Part A/I application is included for additional reference:

10. Description of Hazardous Wastes (Continued: use additional sheets as necessary)																
Line Number		A. EPA Hazardous Waste No. (Enter code)				B Estimated Annual Quantity of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES								
								(1) PROCESS CODES (Enter code)								
	1	D	0	0	1	480,000	P	S	0	1	X	0	1			
	2	D	0	0	2	480,000	P	S	0	1	X	0	1			
	3	D	0	0	3	480,000	P	S	0	1	X	0	1			

	4	D	0	0	4	480,000	P	S	0	1	X	0	1					
	5	D	0	0	5	480,000	P	S	0	1	X	0	1					
	6	D	0	0	6	480,000	P	S	0	1	X	0	1					
	7	D	0	0	7	480,000	P	S	0	1	X	0	1					
	8	D	0	0	8	480,000	P	S	0	1	X	0	1					
	9	D	0	1	0	480,000	P	S	0	1	X	0	1					
1	0	D	0	1	1	480,000	P	S	0	1	X	0	1					
1	1	D	0	3	0	480,000	P	S	0	1	X	0	1					
1	2	K	0	4	4	480,000	P	S	0	1	X	0	1					
1	3	K	0	4	5	480,000	P	S	0	1	X	0	1					
1	4	K	0	4	6	480,000	P	S	0	1	X	0	1					
1	5	P	0	0	9	480,000	P	S	0	1	X	0	1					
1	6	P	0	4	8	480,000	P	S	0	1	X	0	1					
1	7	P	0	6	5	480,000	P	S	0	1	X	0	1					
1	8	P	0	8	1	480,000	P	S	0	1	X	0	1					
1	9	P	1	0	5	480,000	P	S	0	1	X	0	1					
2	0	P	1	1	2	480,000	P	S	0	1	X	0	1					
2	1	U	0	6	9	480,000	P	S	0	1	X	0	1					
2	2	U	0	8	8	480,000	P	S	0	1	X	0	1					
2	3	U	0	9	6	480,000	P	S	0	1	X	0	1					
2	4	U	1	0	5	480,000	P	S	0	1	X	0	1					
2	5	U	1	0	8	480,000	P	S	0	1	X	0	1					
2	6	U	1	1	5	480,000	P	S	0	1	X	0	1					
2	7	U	1	1	7	480,000	P	S	0	1	X	0	1					
2	8	U	1	3	3	480,000	P	S	0	1	X	0	1					
2	9	U	1	6	0	480,000	P	S	0	1	X	0	1					
3	0	U	2	3	4	480,000	P	S	0	1	X	0	1					

III. IMPLEMENTATION OF THE CONTINGENCY PLAN

A. Contingency Plan Implementation Criteria

The decision to implement the Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The purpose of this Section is to provide guidance to the Emergency Coordinator in making this decision by providing decision-making criteria.

The Contingency Plan will be implemented in the following situations:

1. Fire and/or Explosion
 - a. A fire causes the release of toxic fumes.
 - b. The fire spreads and could possibly ignite materials at other locations on-site or could cause heat-induced explosions.
 - c. The fire could possibly spread to off-site areas.
 - d. An imminent danger exists that an explosion could occur, causing a safety hazard because of flying fragments or shock waves.
 - e. An imminent danger exists that an explosion could ignite other hazardous waste at the facility.
 - f. An imminent danger exists that an explosion could result in the release of toxic material.
 - g. An explosion has occurred.
2. Spills or Material Release
 - a. The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard.
 - b. The spill could cause the release of toxic liquid fumes.
3. Hurricane Events

B. Emergency Response Procedures

Emergency response procedures will be implemented for the following situations:

1. Fires and/or explosions

2. Discharge, release or spills
3. Hurricane events (that threaten employee safety or facility property)

1. **Fires and/or Explosions**

In the event of a fire or explosion, the following procedures will be implemented:

- a. If an employee observes an incident -- Notify Emergency Coordinator immediately, using telephone or plant radio. During holidays, weekends and off hours, the guard shall notify the Colfax Volunteer Fire Department. The guard shall also notify one of the coordinators listed in Section IV.
- b. Remain in the area at a safe distance until help arrives.
- c. The Emergency Coordinator will immediately review the incident and summon additional assistance as needed. Section VII.A provides the list of available outside assistance.
- d. Duties of the Emergency Coordinator are described in Section IV.A.
- e. No effort will be made to fight fires involving explosives on the facility.

2. **Discharges, Releases, or Spills**

Any person observing, being involved with or recognizing a discharge, release or spill of hazardous waste is responsible to:

- a. Identify the problem to the best of his ability, taking his own safety into account.
- b. Immediately notify the Emergency Coordinator or alternate, providing a brief description of the problem.
- c. Take the following measures to stop and/or contain the release only if there is no danger to human health:
 1. Stop the container from leaking if it can be accomplished without endangering human health.
 2. Contain the spill if possible.
 3. Apply absorbent material on spill.

- d. Await further inspections from the Emergency Coordinator. Following notification, the Emergency Coordinator or alternate will direct responses for containment clean-up and disposal in the case of a discharge, release or spill.

Major Spills

Release of hazardous substances above the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), Section 102(a) "reportable quantity" (referred to as major releases throughout this Plan) might occur in areas inside and outside of diked areas. Response to releases within the diked areas, which provide immediate containment and outside of diked areas, are addressed separately. Procedures for notification of major spills are provided in Subsection 2.c. Appendix B lists the available emergency equipment and location of such equipment for responding to major spills. Figure 2 provides a site plan with the emergency equipment.

- a. **Within Diked Areas**

Diked areas are present around all hazardous waste liquid storage areas. Upon the detection of a spill by any plant personnel, the emergency coordinator (or an alternate emergency coordinator) will be notified immediately.

Under the direction of the Emergency Coordinator, the following procedures will be used to respond to a release inside a diked area.

1. Immediately secure leaking equipment, either by temporary or permanent means.
2. Immediately prevent the spread of the spill outside of the diked area, if possible, or secure an absorbent material (i.e., floor dry, sand, earth, etc.) or any material to minimize the spread of the spill.
3. Personnel performing clean up must wear the appropriate personal protection equipment as specified by the Emergency Coordinator. Additional safety equipment may be necessary depending upon the type of spill.
4. Recover the spilled material, if appropriate. Unrecoverable materials will be cleaned up by using the appropriate absorbent materials and disposed of in the appropriate manner.
5. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal in the appropriate manner.

6. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal. All material must be put into DOT approved containers and properly labeled. All containers are to be moved to the appropriate area until disposal can be arranged. All information about the containers prepared for storage is to be recorded by the Emergency Coordinator.
7. After clean up of a spill, all contaminated materials will be disposed of in an appropriate, approved manner.

b. Outside Diked Areas

Under the direction of the Emergency Coordinator, the following procedures will be used to respond to a release outside of a diked area.

1. Immediately secure the leaking equipment either by temporary or permanent means.
2. Immediately prevent the spread of the spill outside of the diked area, if possible, or secure an absorbent material (i.e., floor dry, sand, earth, etc.) or any material to minimize the spread of the spill.
3. Personnel performing clean up must wear the appropriate personal protection equipment as specified by the Emergency Coordinator. Additional safety equipment may be necessary depending upon the type of spill.
4. Recover the spilled material, if appropriate. Unrecoverable materials will be cleaned up by using the appropriate absorbent materials and/or disposed in the appropriate manner.
5. All materials cleaned up or utilized during clean up of the spill that are contaminated are to be prepared for storage and/or disposal. All material must be put into DOT approved containers and properly labeled. All containers are to be moved to the appropriate area until disposal can be arranged. All information about the containers prepared for storage is to be recorded by the Emergency Coordinator.
6. After clean up of a spill, all contaminated materials will be disposed of in an appropriate, approved manner.

c. Notification of Major Spills

In the event of a major spill at the facility, the following agencies must be notified by the Emergency Coordinator or designee:

- National Response Center 800-424-8802
- U. S. EPA, Region 6 214-655-2222
- LA State Police 225-925-6925
 Hazardous Materials Unit
- Louisiana Department of
 Environmental Quality 225-219-5181
- Grant Parish Sheriff's
 Office 318-627-3261

These notifications will be completed in accordance with regulatory requirements either by the Primary Emergency Coordinator or designee or by the Environmental Compliance Manager for the facility.

Minor Spills

Small volume spills on plant floors, outdoor drives, etc., will be immediately cleaned up with absorbent materials and placed in DOT approved containers and labeled. All precautions will be taken to prevent such spills from reaching floor drains or storm sewers. Appendix B lists the available spill control equipment, including the equipment necessary to respond to minor spills. Any spill that exceeds the reportable quantities requires notification to the appropriate agencies. The DOT regulations list the reportable quantities for each type of waste that may be processed at the Colfax facility.

3. Hurricane Procedures

The purpose of this section of the procedure is to reduce, to the extent possible, the likelihood of injury to personnel, damage to property or loss of production due to a hurricane. Although in most cases when a hurricane hits the coastal areas, significant weakening occurs prior to reaching the Colfax area, there are occasions when hurricanes can produce very strong winds and torrential rainfall in the area of the facility. For this reason, these procedures are considered necessary. The hurricane season in the Atlantic, Caribbean, and Gulf of Mexico runs from June 1-November 30 of each year.

In general, the approach will be to take preliminary steps to minimize damage due to winds

and flooding and then, if the hurricane approaches, curtail operations in such a manner as to have the facility in the safest condition under the circumstances.

Included in these plans is a shut down schedule for the facility. This is a guide and will be adjusted or modified to best meet the conditions existing at the time.

Food and sleeping accommodations will be provided for those required to remain at the facility on a continuous basis, if deemed necessary by the Emergency Coordinator.

To efficiently carry out all of these hurricane emergency plans, certain people have been given special hurricane emergency assignments as indicated on the following pages.

Definitions:

Hurricane Watch - means a hurricane may threaten an area within 24-48 hours.

Hurricane Warning - means a hurricane is expected to strike an area within 24 hours.

National Hurricane Center - means the agency responsible for issuing advisories concerning hurricanes and other tropical systems.

Weather Bureau Report - means the official National Weather Service or similar agency that provides weather reports and guidance generally issued at four hour intervals by National Weather Service in New Orleans, Louisiana

a. Phase I (Beginning of Season)

1. Survey all guy wires and need for any wires (temporary buildings).
2. Survey drainage and make sure all sewers and drainage areas are in good order. Make sure any sump pumps work.
3. Survey all emergency generators and standby equipment.
4. Survey all metal coverings and roofing for likelihood of being blown loose and have necessary repairs made.
5. Check portable generators for operability. Store in an accessible area.

b. Phase II (Hurricane Watch 24-48 Hours in Advance)

1. General clean up campaign. Eliminate or secure all loose objects.

2. Survey all metal coverings and roofing for likelihood of being blown loose and have necessary repairs made.
3. Survey all guy wires and need for guy wires (temporary buildings, etc.).
4. Survey all emergency generators and standby equipment.
5. Survey drainage and make sure all sewers are draining and in good order.
6. Determine need for air compressor.
7. Ample supply of flashlights and batteries should be assured.
8. Since the facility currently has only mobile offices, the plant will be shut down and employees sent home in the event that hurricane-force winds are anticipated.
9. Contractors working in the plant will be required to clean up their construction area (remove scaffold boards, tie down portable buildings, etc.).
10. The Facility Manager or designated alternate, will see to the coordination of all hurricane preparations and, when necessary, facility shutdown.

c. Phase III (Hurricane Warning - 12 Hours in Advance)

1. Secure all containers, scaffold material, etc., that could be blown by wind. When feasible, tie individual items into large bundles or groups to help prevent movement from the wind.
2. Tie down all portable buildings, especially in the vicinity of critical equipment such as transformer stations.
3. All booms, cranes, dock booms, etc., should be lowered and secured. All gantries should be secured.
4. Spot portable generators at maintenance building.
5. Tape all glass that has both dimensions larger than 18".
6. Fill all trucks and other equipment with fuel. (Cannot pump gasoline

during power failure.) Fill 55-gallon containers and have hand pumps available.

7. Emergency drinking water should be stored.
8. The course and speed of the hurricane will be monitored by the Facility Manager. When it becomes apparent that a hurricane will move into the Colfax area, the following steps will be taken:
 - About eight (8) hours before the hurricane is expected to hit, volunteers will be called to the facility to begin preparation of facility shutdown.
 - About six (6) hours before the hurricane-force winds are expected to hit, the order to shut down the facility will be given by the Facility Manager. At this time, the shutdown plans will go into effect.
 - The loss of electrical power during the hurricane is to be expected.
 - The office personnel will cover equipment to protect them from windows blowing out or leaking roofs. Offices will be expected to get wet, so efforts will be made to store papers and books in appropriate places.
9. Operating personnel at the plant will be released at least two (2) hours prior to a hurricane hitting the area.

4. Bomb Threat Procedures

In the event of a bomb threat, the facility will report it to the local law enforcement authorities for further investigation and recommendations as to the proper course of action. Since the facility is monitored at all times, it is highly unlikely that a bomb could be unknowingly brought into the facility. Due to the remote location of the facility and due to the lack of significant targets, the facility considers it extremely unlikely that it would be targeted for a bomb attack by terrorists or others. The facility has no documented occurrences of bomb threats to date. However, if there is a bomb threat, the Emergency Coordinator, in conjunction with the local authorities, will make a decision as to whether or not to evacuate. If the bomb threat is considered credible, outside law enforcement authorities will be requested to aid the facility with any appropriate searches or other actions as deemed necessary by the law enforcement officials. In the event of repeated prank bomb threats, an investigation of the source will be undertaken, and corporate officials will take the appropriate action against the perpetrator.

IV. HAZARDOUS WASTE EMERGENCY COORDINATORS

Clean Harbors Colfax, LLC maintains a list of employees who are capable of carrying out the responsibilities of Emergency Coordinator at all times in the event of an emergency. A primary Emergency Coordinator has been designated from this list and is responsible for coordinating emergency response measures. In the event the primary Emergency Coordinator is not available, a designated alternate Emergency Coordinator will be responsible for coordinating all emergency response measures. A designated Emergency Coordinator will be at the Clean Harbors Colfax, LLC facility at all times or will be available on an on-call basis.

The first person to be called during an emergency will be the primary Emergency Coordinator. If the primary Emergency Coordinator is unavailable, the alternate Emergency Coordinator will act as Emergency Coordinator and will be responsible for coordinating the emergency response measures. In the event of an emergency, the Emergency Coordinator responding to the emergency must call all others on the following list:

Primary Emergency Coordinator

Jim Gallion
General Manager
Home Address: 9726 Hwy 8
Colfax, LA 71417
Work Phone: 318-627-3443
Home Phone: 318-627-2961
Mobile: 318-201-6602

Alternate Emergency Coordinators

Ken Michels
Operations Manager
Home Address: 375 Barron Road
Pollock, LA 71467
Work Phone: 318-627-3443
Home Phone: 318-765-9691
Mobile: 318-201-6603

David Lasyone
Explosive Technician Supervisor
Home Address: 126 O'Quinn Spur Road
Colfax, LA 71417
Work Phone: 318-627-3443
Home Phone: 318-627-3771

A. Responsibilities and Duties

The Emergency Coordinator or alternate is responsible for insuring that the Contingency Plan is implemented during an emergency situation and has complete authority from Clean Harbors Colfax, LLC to commit funds necessary to carry out any emergency procedure. The Emergency Coordinator determines, by report or actual observation, if an emergency exists at a hazardous waste facility. If an emergency exists, the Emergency Coordinator has the responsibility to:

1. Activate communication system to notify all plant personnel;
2. Notify appropriate emergency response and regulatory agencies;
3. Immediately identify the character, exact source, amount and extent of area of any released materials;
4. Assess hazard to human health or the environment due to direct and indirect effects of any toxic, irritating or asphyxiating gases that are generated or the effects of any hazardous surface waste run-off from water or chemical agents used to control fire and heat-induced explosions.
5. If the Emergency Coordinator believes the emergency could threaten human health or the environment outside Clean Harbors Colfax, LLC property, he must immediately:

Notify the Louisiana Department of Environmental Quality Emergency Response Section and provide his name and telephone number, the name and address of the facility, time and type of incident, name and quantity of material(s) involved, the extent of injuries, if any, and the possible hazards to human health or the environment outside the plant. If evacuation of local areas may be advisable, immediately notify the appropriate local authorities;

6. Implement all measures necessary to ensure that fires, explosions and releases do not occur or spread to other hazardous wastes at the plant. These measures may include stopping operations, collecting and containing released waste and removing or isolating containers;
7. If the plant stops operation in response to a fire, explosion or release, take measures necessary to monitor the facility;
8. Directly following the emergency, provide for the treatment, storage or disposal of recovered waste, contaminated soil, surface water or other contaminated material resulting from the emergency;

9. Ensure that clean-up is complete before managing any waste that may be incompatible with the released waste;
10. Insure that all emergency equipment is cleaned and fit for use before operations are resumed.

After the emergency, the Emergency Coordinator is responsible for certain reporting requirements. The Louisiana Department of Environmental Quality and appropriate state and local authorities must be notified that the plant is in compliance before operations are resumed. It must be noted in the Clean Harbors Colfax, LLC operating record the time, date and details of the emergency. Also, within 15 days of an emergency requiring implementation of the Contingency Plan, a written report must be submitted to the Louisiana Department of Environmental Quality which includes the following information:

1. Name, address and telephone number of owner;
2. Name, address and telephone number of plant;
3. Date, time and type of incident;
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where applicable, and;
7. Estimated quantity and disposition of recovered material that resulted from the emergency.

B. Emergency Contacts

The following table lists the organizations that can be contacted by the Emergency Coordinator in the event of an emergency.

<u>Emergency</u>	<u>Organization</u>	<u>Number</u>
Injury/ Illness	Grant Medical Center Colfax, LA	318-627-3101
	Rapides Regional Hospital	318-473-3000

	Med Express Colfax, LA (ambulance/helicopter)	911
	Acadian Ambulance Alexandria, LA	911
Fire or Explosion	LDEQ Baton Rouge, LA	225-219-3181
	Grant Parish Sheriff	318-627-3261 or 911
	Colfax Volunteer Fire Department	911
RQ Spill	Grant Parish LA Emergency Preparedness Committee	318-627-3261
	Louisiana State Police Hazardous Materials Unit	225-925-6925
	LDEQ	225-219-3181

V. EMERGENCY EQUIPMENT

The following sections describe the emergency equipment available at Clean Harbors Colfax, LLC, which could be used during an emergency. Each list of emergency equipment can be found in the appropriate sections of the appendices. The location of the emergency equipment at the facility is shown on Figure 2.

A. Fire Fighting Equipment

The list of fire fighting equipment and fire fighting systems, the locations and capabilities at Clean Harbors Colfax, LLC is located in Appendix A.

B. Spill Control Equipment

The list of the equipment available at Clean Harbors Colfax, LLC that may be used in the event of a hazardous waste spill is located in Appendix B.

C. Communications and Alarm Systems

Clean Harbors Colfax, LLC maintains an internal communications system for notification and instruction of personnel in case of an emergency. The communications system consists of an internal telephone network and two-way radios. In the event of an emergency, facility personnel have access to the communications system at the following locations:

Control Room (near burn pad)
Administrative Office Building
Guard House

Two-way radios are carried by operations personnel for communications purposes.

D. Decontamination Equipment

The list of the equipment available at Clean Harbors Colfax, LLC that may be used in the event of a hazardous waste spill can be found in Appendix C.

Employees will utilize the equipment listed as needed to ensure that any impacted areas that become contaminated are properly decontaminated. If there is a liquid spill onto a concrete area, the spilled material will be covered with absorbent and then cleaned up using shovels, brooms, or other tools as appropriate. Spills of solid materials onto concrete areas will be removed using brooms, shovels, or other appropriate tools. Concrete areas may be pressure washed to remove any remaining residues if necessary. Any spills that occur outside of containment areas will be removed by over-excavating until all visible waste is removed.

All personnel who handle waste materials will utilize the proper PPE to minimize direct contact with waste. In the event of direct contact with waste, the employee will utilize the eye wash units or other water sources to remove contaminants.

All clean up materials and used PPE will be properly disposed in accordance with state and federal hazardous waste management regulations.

All equipment that becomes contaminated during the collection of hazardous waste and waste residues will be decontaminated using the appropriate means (such as using detergent washes followed by triple rinsing, if appropriate). Any decontamination materials including wash waters and rinsate that become contaminated with listed wastes will be collected and shipped off-site to a properly permitted facility for disposal.

VI. CLEAN HARBORS COLFAX, LLC EVACUATION PLAN

An evacuation plan has been developed for use in emergency situations when personnel must leave a portion of the plant due to a danger to human health. Sufficient aisle space is maintained at the facility to allow unobstructed movement of personnel, fire protection equipment and decontamination equipment to any area of the facility. Clean Harbors Colfax, LLC personnel will be notified to evacuate the facility via two-way radios in the event an emergency situation warrants evacuation. Employees shall leave the plant through the exit gate and proceed to the administrative office building. This point was selected as the primary rendezvous area, and it is sufficiently large enough to accommodate a mass exit of the entire work force. The entrance gate to the burn site has been chosen as a secondary rendezvous area. Figure 3 provides a diagram of the primary and secondary evacuation routes and rendezvous point.

Upon arrival at the rendezvous point, all supervisors will locate those employees assigned to their area. Missing employees will be reported to the Emergency Coordinator. The guard will proceed to the rendezvous point with the visitor sign-in logbook noting the on-site visitors. Any missing visitor will be reported to the Emergency Coordinator.

Although the facility does not anticipate that its operations could ever necessitate any evacuations of the surrounding community, if the situation warrants, the facility will coordinate any external evacuations with the Grant Parish Sheriff's Department who will notify any surrounding residents of the need to evacuate. Due to the size of the facility and the wooded buffer zone surrounding the property, it is unlikely that any such evacuation will ever be needed.

VII. COORDINATION WITH OUTSIDE EMERGENCY AGENCIES

Clean Harbors Colfax, LLC has contacted and has made arrangements with outside emergency response agencies in order that these agencies become familiar with the facility. These arrangements include coordination with the Louisiana State Police Emergency Response Team in the event of a serious hazardous waste emergency at the plant that requires their assistance. The Colfax Clinic in Colfax, LA and Rapides Regional Hospital in Alexandria, LA will be provided with a description of the types of hazardous waste handled at Clean Harbors Colfax, LLC in order to be prepared for any injuries associated with a hazardous waste accident.

A. Arrangements with Police, Fire Department and Emergency Response Teams

Copies of the Clean Harbors Colfax, LLC Contingency Plan will be supplied to the outside emergency agencies listed below. Written requests have been made to these agencies for assistance in the event an emergency situation occurs at the facility. Furthermore, these agencies have been offered the opportunity to visit the plant to become familiar with the plant layout, the hazardous waste facility locations and the emergency response systems. In addition to the written requests, meetings have been held with the local emergency response agencies to better explain and familiarize these agencies with the safety plans at Clean Harbors Colfax, LLC.

Louisiana Department of Environmental Quality
Hazardous Waste Division
P.O. Box 4314
Baton Rouge, LA 70821-4314

Grant Medical Center
340 Webb Smith Drive
Colfax, LA 71417

Grant Parish Sheriff Department
P.O. Box 223
Colfax, LA 71417

Colfax Volunteer Fire Department
Colfax, LA 71417

Louisiana State Police
Emergency Response Section
P.O. Box 66614
Baton Rouge, LA 70896

Grant Parish Office of
Louisiana Emergency Preparedness Committee
(LEPC - Old Civil Defense)
P.O. Box 223
Colfax, LA 71417

B. Designated Primary Authority

In the event of an emergency at the Clean Harbors Colfax, LLC site requiring outside assistance, the designated primary on-scene coordinator will be an emergency response team member from the Louisiana Department of Environmental Quality's Emergency Response Team.

VIII. AMENDMENTS TO THE CONTINGENCY PLAN

This Contingency Plan will be reviewed and immediately amended, if necessary, whenever:

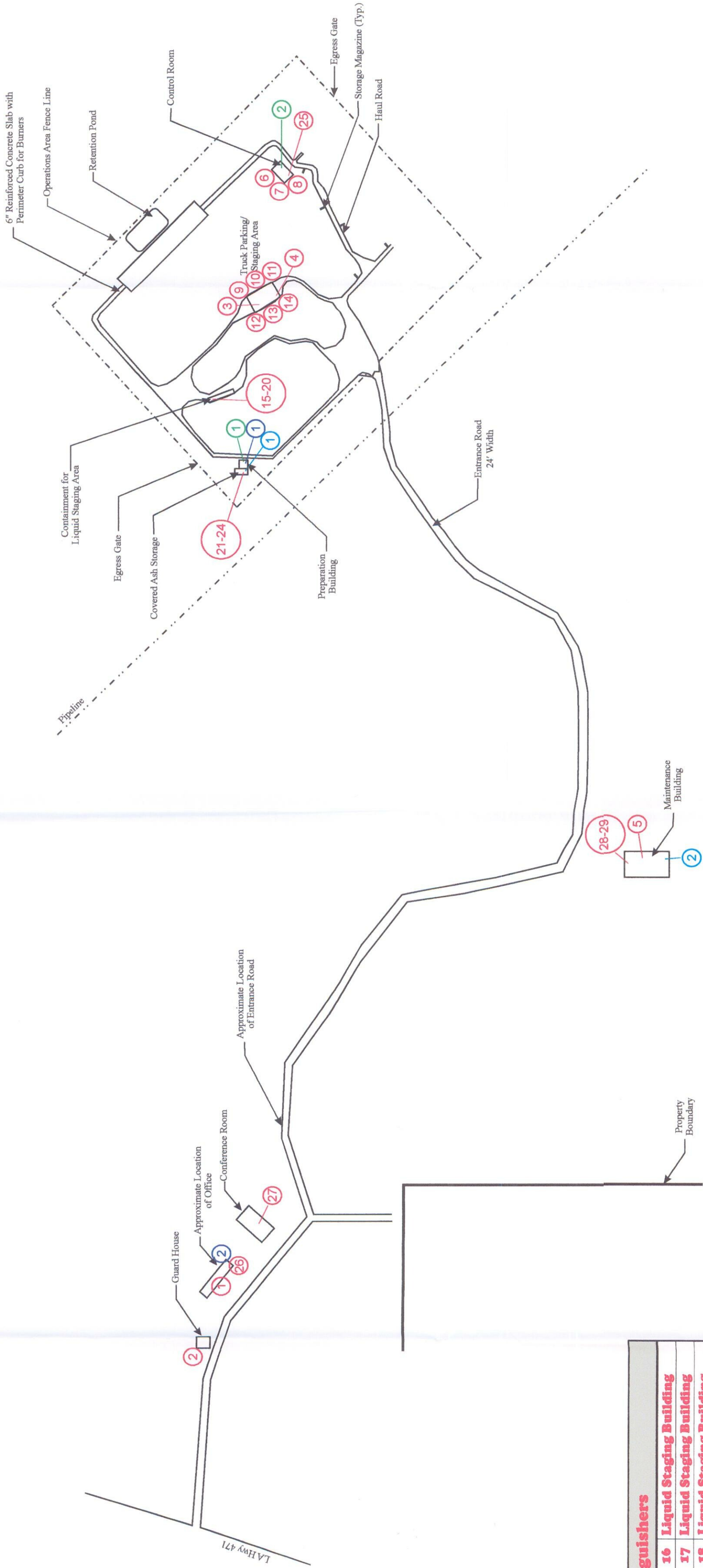
1. The Contingency Plan fails in an emergency.
2. The Clean Harbors Colfax, LLC facility changes its design, construction, operations, maintenance or other circumstances in a way that materially increases the potential for fires, explosions or releases of hazardous waste or hazardous waste constituents.
3. The list of Emergency Coordinators changes.
4. The list of emergency equipment changes.
5. Changes occur to the response necessary in an emergency.

Whenever there has been an approved amendment to the Contingency Plan, all official copies of the Plan must be updated. For the list of official copies, refer to Page 5 of this Plan.

FIGURE 1
SITE LOCATION MAP

FIGURE 2

LOCATION OF EMERGENCY EQUIPMENT



Fire Extinguishers	
1 Main Office	16 Liquid Staging Building
2 Guard Office	17 Liquid Staging Building
3 Mule #1	18 Liquid Staging Building
4 Mule #2	19 Liquid Staging Building
5 Tractor	20 Liquid Staging Building
6 Forklift	21 New Preparation Building
7 Control Building	22 New Preparation Building
8 Control Building Spare	23 New Preparation Building
9 Truck Staging Building	24 New Preparation Building
10 Truck Staging Building	25 Front End Loader
11 Truck Staging Building	26 Break Room
12 Truck Staging Building	27 Conference Room
13 Truck Staging Building	28 Maintenance Building
14 Truck Staging Building	29 Maintenance Building
15 Liquid Staging Building	

Eyewash Units	
1 Preparation Building	
2 Maintenance Building	
PPE Supply	
1 Preparation Building	
2 Control Building	
First Aid Kits	
1 Preparation Building	
2 Office	



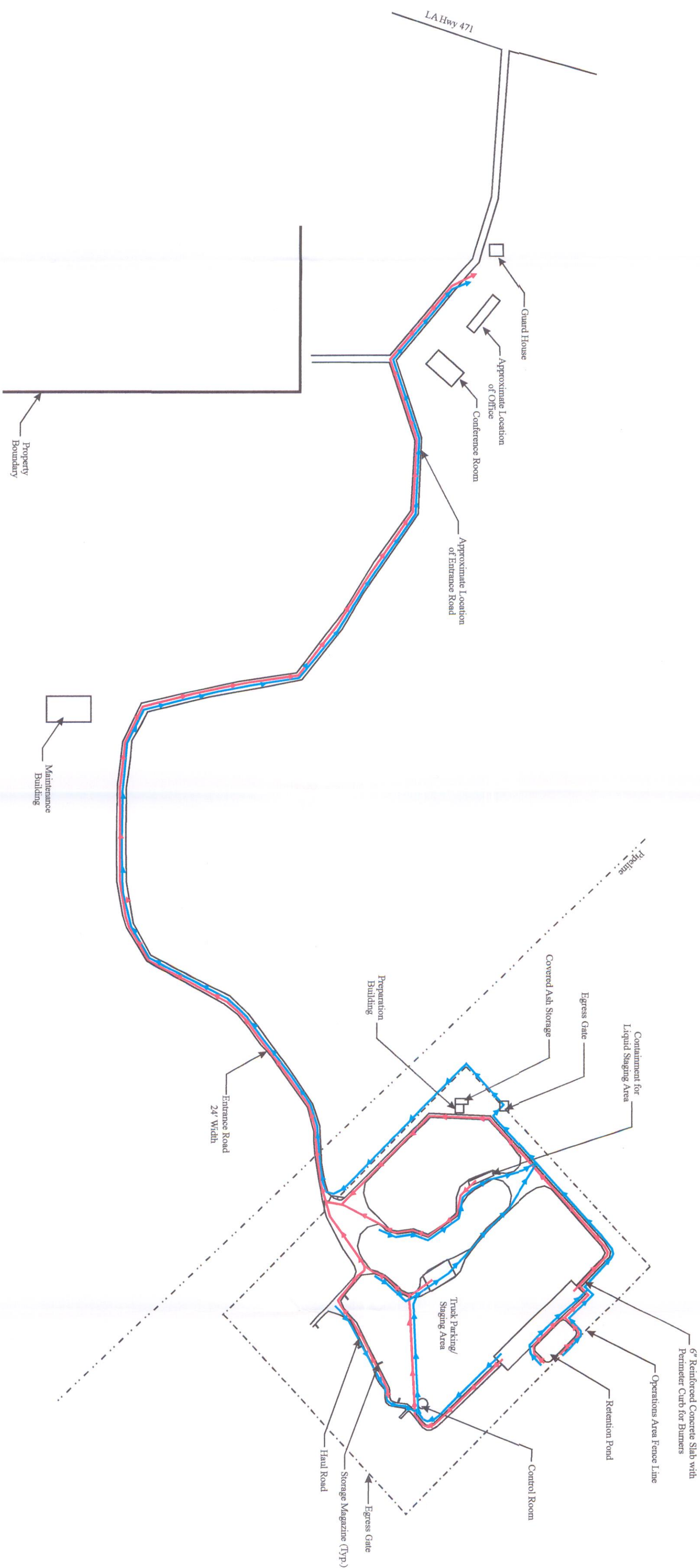
Evolving to Meet Tomorrow's Challenges




LEGEND
(color-coded to match table)
Fire Extinguishers (red)
Emergency Eyewash (blue)
PPE Supply (green)
Emergency Eyewash (purple)

DATE	DRAWN BY	JOB NUMBER
12/15/04	SNM	11705
APPROVED BY	FIGURE NUMBER	Contingency Plan
PL	2	

FIGURE 3
EVACUATION PLAN

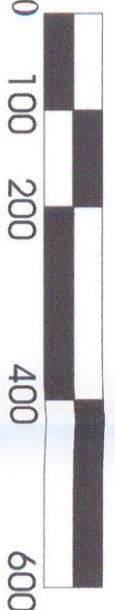




EcoScience Resource Group, LLC

Adding to Meet Tomorrow's Challenges

SCALE



LEGEND

Primary Evacuation Route

Secondary Evacuation Route

DATE

12/15/04

DRAWN BY

SNM

JOB NUMBER

11705

APPROVED BY

PL

FIGURE NUMBER

3

Contingency Plan

CleanHarbor's

PRIMARY AND SECONDARY EVACUATION ROUTES

CLEAN HARBORS

COLFAX, LA

APPENDIX A

LIST OF FIRE FIGHTING EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location</u>	<u>Capability</u>
31*	ABC Dry Chemical	Throughout Plant Area	Ten and twenty Pound units to be used on ABC type fires

*Including one each in the two pick-up trucks.

APPENDIX B

LIST OF SPILL CONTROL EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location</u>	<u>Capability</u>
1	Forklift	Mobile	Can be dedicated immediately to remove contaminated material
1	Front End Loader	Mobile	Can be dedicated immediately to remove contaminated material or dig containment areas
1	Tractor	Mobile	Can be dedicated immediately to farm blade and build fire disc lanes
Multi	Shovels	Preparation Building	Will be used for spill containment and cleanup
3	Spill Kits*	Truck Staging and Truck Parking	Will be used for spill containment and cleanup
Multi	Spill Kit Replacements	Preparation Building	Replace materials for those used

*Spill kits consist of absorbent, containment booms, and a poly shovel.

APPENDIX C

DECONTAMINATION EQUIPMENT

<u>Quantity</u>	<u>Equipment</u>	<u>Location(s)</u>	<u>Capability</u>
6	First Aid Kits	Administrative Office Prep Building Pickup Trucks	This equipment intended for minor injuries only.
3	Utility Vehicles	Mobile	Emergency transport
2	Eyewash	Preparation and Maintenance Building	To remove chemical contaminants if needed.
1	Pressure Washer	Maintenance Building	To clean off any contaminated equipment

Protective Equipment

The following protective equipment is available in the Preparation Building and/or the Control Room for Clean Harbors Colfax, LLC employees during a hazardous waste emergency.

- Disposable suits (Tyveks)
- Hard hats
- Cartridge air purifying respirators (full-face)
- Appropriate Cartridges for Respirators
- Gloves with chemical protection
- Rubber boots with chemical protection
- Safety goggles and glasses
- Flame Retardant Clothing
- Face Shields

ARRANGEMENTS WITH LOCAL AUTHORITIES

Sheriff L.R. "Pops" Hataway
Grant Parish Sheriff's Department
220 Cedar Street
Colfax, Louisiana 71417

I, the undersigned, have previously received a copy of the Contingency Plan for the hazardous waste management facility operated by Clean Harbors Colfax, LLC located at 3763 Highway 471, Colfax, LA. I understand that this plan contains information concerning the layout of the facility (including roads and evacuation routes) and the procedures to be undertaken at the facility in the event of an emergency situation.

It is agreed that the organization listed above will, as appropriate, respond to and/or provide emergency services for Clean Harbors Colfax, LLC.

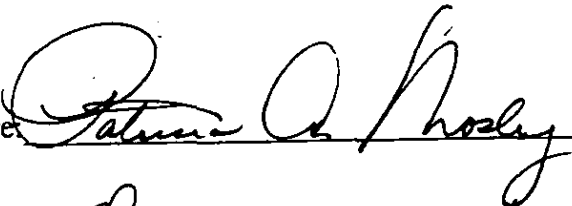
Signature: *L.R. Pops Hataway* Title: *Sheriff*

Date Signed: *10-28-04*

Fire Chief
Colfax Fire Department
405 8th Street
Colfax, Louisiana 71417

I, the undersigned, have previously received a copy of the Contingency Plan for the hazardous waste management facility operated by Clean Harbors Colfax, LLC located at 3763 Highway 471, Colfax, LA. I understand that this plan contains information concerning the layout of the facility (including roads and evacuation routes) and the procedures to be undertaken at the facility in the event of an emergency situation.

It is agreed that the organization listed above will, as appropriate, respond to and/or provide emergency services for Clean Harbors Colfax, LLC.

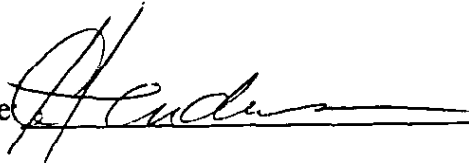
Signature:  Title: Adm. Asst.
Date Signed: October 21, 2004

Manager/Administrator
Med Express
390 Griffith Street
Pineville, Louisiana 71360

I, the undersigned, have previously received a copy of the Contingency Plan for the hazardous waste management facility operated by Clean Harbors Colfax, LLC located at 3763 Highway 471, Colfax, LA. I understand that this plan contains information concerning the layout of the facility (including roads and evacuation routes) and the procedures to be undertaken at the facility in the event of an emergency situation.

It is agreed that the organization listed above will, as appropriate, respond to and/or provide emergency services for Clean Harbors Colfax, LLC.

Signature



Title:

DIRECTOR OF EMS

Date Signed:

10/27/04

Hospital Administrator
Rapides Regional Hospital
211 Fourth Street
Alexandria, Louisiana 71301

I, the undersigned, have previously received a copy of the Contingency Plan for the hazardous waste management facility operated by Clean Harbors Colfax, LLC located at 3763 Highway 471, Colfax, LA. I understand that this plan contains information concerning the layout of the facility (including roads and evacuation routes) and the procedures to be undertaken at the facility in the event of an emergency situation.

It is agreed that the organization listed above will, as appropriate, respond to and/or provide emergency services for Clean Harbors Colfax, LLC.

Signature: *[Handwritten Signature]* Title: CEO

Date Signed: 11/16/04

98-10-22-04

APPENDIX K
TRAINING PLAN

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CLEAN HARBORS COLFAX, LLC
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Training Program

In accordance with the regulatory requirements of the Louisiana Administrative Code (LAC) Title 33 Part V.1515, Clean Harbors Colfax, LLC has developed this Training Program, and it is an integral part of the Part II Permit Application for its facility located near Colfax, Louisiana. A copy of this program is available at the facility at all times.

1.0 INTRODUCTION

Proper training is essential for the safety and well being of all employees and the surrounding community as well as for the efficient and safe operation of all facility processes. Training helps to ensure rapid and effective response to emergency situations. It is the policy of Clean Harbors Colfax, LLC that all employees be trained to perform in a manner that emphasizes accident prevention to safeguard human health and the environment.

1.1 General Training Concept

The training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
- Key parameter for automatic waste feed cut-off systems;
- Communications or alarm systems;
- Responses to fires or explosions;
- Responses to surface soils, surface water, and groundwater contamination incidents; and
- Shutdown of operations.

Each new employee is trained in the general orientation and operation of the facility. A training program related to the specified duties of each job function is specifically tailored for the position. No employee is permitted to work unsupervised until he has successfully completed all elements of the tailored training program. A certification of training completion will occur within six months of the new employee's entry into a specific job. In addition, every employee will participate in continuing training as determined necessary by the company to maintain proficiency, to learn new techniques and procedures, and to reinforce safety and quality consciousness.

Training records are maintained in accordance with applicable regulatory requirements. The records are maintained continuously during an employee's tenure and for a minimum of three years for former employees. At a minimum, each employee's training file will

include the employee's current job title, a written job description, and records documenting the dates and types of training the employee has been provided. The written job description will include detailed information as to the type and amount of introductory and continuing training is required for that job title.

1.2 Program Implementation

Implementation of the training program encompasses:

- Identification of training requirements (for each job)
- Design of training modules and tests
- Selection of qualified instructors
- Employee testing
- Documentation of each training session

Responsibility for the training program rests with the General Manager. He or she, in conjunction with the corporate training personnel, designates qualified instructors, approves the training program content and format, provides the necessary resources, and maintains employee training records.

2.0 FACILITY ORGANIZATION

Training is tailored to prepare the employees to safely and effectively perform the functions of their position. Job descriptions are the key to designing responsibilities and duties of each position, and likewise the specific training necessary to accomplish those duties. Personnel with the following position titles are employed from time to time at this facility:

- General Manager

BASIC FUNCTIONS: Manages the Operations, maintenance, and Engineering functions and oversees all other activities at the Colfax Facility to achieve stated profitability goals. Provides dependable quality service to all customers while maintaining compliance with all regulations.

QUALIFICATIONS: Minimum four year technical or business, BS or BA degree from an accredited college, university, or equivalent. Minimum of five years experience or equivalent involving explosive/reactive operations. Experience in hazardous waste industry preferred.

SPECIFIC DUTIES:

1. Oversee and guide daily Operations and long range business planning of the Colfax Facility.
2. Provides direct management of Operations, Maintenance, and Engineering activities at the Colfax Facility.
3. Coordinate the activities of Operations, Sales, Technical Services, Accounting, Compliance Health & Safety, and Human Resources to ensure smooth operations in accomplishment of written business plans and objectives.
4. Develop written business plans, goals and objectives and develop strategies to attain them.
5. Ensure compliance with all regulatory requirements to maintain proper business operations.
6. Ensure a safe and healthful working and living environment for all employees, visitors, and surrounding neighbors.
7. Ensure a productive and motivated work force.
8. Maintain a good relationship and positive image with the local community.
9. Safeguard and maintain all physical assets at the facility.
10. Ensure an ROA on all assets acceptable to company guidelines and senior management.

- Operations Manager

BASIC FUNCTIONS: Supervises and manages daily facility explosive/reactive treatment

and directs explosive technicians daily routines and activities. Manages on site inventory control over explosive/reactive storage and tracking. Writes standard operating procedures (SOP) on explosive/reactive storage, on site transportation, treatment preparation and treatment processes. Provides facility management guidance in absence of General Manager. Assists facility management in providing quality service to all customers while maintaining compliance with regulatory requirements. Assists in maintaining positive community relations.

QUALIFICATIONS: Minimum four year technical or business, degree from an accredited college or university, or equivalent. Three to five years experience or equivalent involving explosive/reactive operations. Experience in hazardous waste industry preferred.

SPECIFIC DUTIES:

1. Manages daily activities of explosive/reactive treatment operations of the Colfax Facility.
2. Writes procedures (SOP's) for all explosive/reactive operations.
3. Provides specialized professional services for preparing and packing explosives/reactives for shipment from various customer locations.
4. Provides facility management guidance in g absence of General Manager.
5. Assists General Manager in developing plans, goals and objectives and strategies for achievement.
6. Assists General Manager in maintaining compliance with all regulatory requirements.
7. Assists General Manager in maintaining a safe and healthful working and living environment for all employees, visitors and surrounding community.
8. Assists General Manager in maintaining a positive image and relationship with the local community.
9. Manages and conducts special projects as assigned.

- Lead Explosives Technician

BASIC FUNCTIONS: Supervises Explosive Technicians during preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience required, valid driver's license.

SPECIFIC DUTIES:

1. Oversees maintenance and equipment associated with operations of explosive/reactive waste handling, storage and treatment.
2. Conducts inspections and inventories of explosive reactive waste according to

established procedures.

3. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.

4. Operates and maintains communications, monitoring, alarm and security systems.

5. Provides direction on incoming explosive/reactive waste shipments, separates and stores according to compatibility.

6. Oversees preparation and loading of thermal treatment burners with explosive/reactive waste for treatment and disposal.

7. Maintains and utilizes personal protective equipment according to established procedures.

8. Performs additional responsibilities as assigned by supervisor.

- Explosives Technician

BASIC FUNCTIONS: Preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience preferred, valid driver's license.

SPECIFIC DUTIES:

1. Operates and maintains equipment associated with operations of explosive/reactive waste handling, storage and treatment.

2. Conducts inspections and inventories of explosive reactive waste according to established procedures.

3. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.

4. Operates and maintains communications, monitoring, alarm and security systems.

5. Loads and unloads incoming explosive/reactive waste shipments, separates and stores according to compatibility.

6. Prepares and loads thermal treatment burners with explosive/reactive waste for treatment and disposal.

7. Maintains and utilizes personal protective equipment according to established procedures.

8. Performs additional responsibilities as assigned by supervisor.

- Maintenance Technician

BASIC FUNCTIONS: Maintenance and general housekeeping of all property, buildings, and equipment. Preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience preferred, valid driver's license.

SPECIFIC DUTIES:

1. Maintains and operates all equipment associated with operations of explosive/reactive waste handling, storage, treatment, and maintenance.
2. Maintains all grounds and surroundings such as grass cutting, trimming trees, maintain fire lanes, control burning, picking up litter, grading roads, etc.
3. Maintains and operates all communications, monitoring, alarm and security systems.
4. Maintains required records for proper record keeping of equipment and property according to established procedures.
5. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.
6. Loads and unloads incoming explosive/reactive waste shipments, separates and stores according to compatibility.
7. Conducts inspections and inventories of explosive reactive waste according to established procedures.
8. Prepares and loads thermal treatment burners with explosive/reactive waste for treatment and disposal.
9. Maintains and utilizes personal protective equipment according to established procedures.
10. Maintains and utilizes personal protective equipment according to established procedures.
11. Performs additional responsibilities as assigned by supervisor.

- Plant Coordinator

BASIC FUNCTIONS: Manages all aspects of facility Administration, Accounting, Purchasing, Human Resources, Customer Services and Facility Security and administrative office functions of Health & Safety, Environmental Affairs and Project Management by overseeing daily routines and managing staff activities to maintain a professional and efficient operation.

QUALIFICATIONS: Minimum two-year technical, business or Associate degree from an accredited college or university, or equivalent. Seven to eight years administrative experience or equivalent. Experience in hazardous waste industry or equivalent.

SPECIFIC DUTIES:

1. Manages daily activities of office and administrative staff of the Colfax Facility.

2. Provides direct management of Administration, Accounting, Purchasing, Human Resources, Customer Services and Facility Security.
3. Manages administrative activities of Health & Safety, Environmental Affairs and Project Management to maintain a professional and efficient operation.
4. Provides facility management as directed when Facility Manager is absent from facility.
5. Assists Facility Manager in developing plans, goals and objectives and strategies for achievement.
6. Assists Facility Manager in maintaining compliance with all regulatory requirements.
7. Assists Facility Manager in maintaining a safe and healthful working and living environment for all employees, visitors, and surrounding community.
8. Assists Facility Manager in maintaining a positive image and relationship with the local community.
9. Maintains accountability for all assets.
10. Manages and conducts special projects as assigned by Facility Manager.

A current facility organization chart is maintained on-site at all times. The position descriptions, including basic function, duties and job requirements presented for each of the above listed position titles are also maintained on-site at all times.

3.0 TRAINING PROGRAM

3.1 Orientation

All new employees participate in an orientation program designed to familiarize the employee with their new surroundings. To ensure that all appropriate topics are covered, an orientation checklist is completed and signed by all participating in the orientation. The completed checklist is then placed in the employee's personnel training file as a permanent record.

The following is a description of the Orientation Training:

1. Completion of all applicable personnel forms.
2. Discussion with the General Manager
 - a. Welcome
 - b. Organization and goals of:
 - (i) Facility
 - (ii) Company
3. Policies and Benefits
4. Safety
 - a. Safety Policy
 - b. Individual Responsibility
 - c. Accident and Incident Reporting
 - d. Issue and Discuss Safety Equipment (as appropriate)
 - (i) Safety Glasses
 - (ii) Respirator
 - (iii) Gloves
 - (iv) Rain Gear
 - (v) Rubber Boots
5. Regulatory Review
6. Job Description and Duties (as applicable)
7. Facility Tour
 - a. Storage Magazines
 - b. Preparation Building
 - c. Unloading Area
 - d. Burn Pad

3.2 Safety

Clean Harbors Colfax, LLC has a policy that no job shall be performed if that job endangers

the safety or health of any person. The company ensures that all employees are trained to safely perform assigned tasks. All workers assigned to work in an area of the facility where the potential exists for exposure to hazardous waste must complete an intense safety training as mandated by OSHA 29 CFR 1910.120. This training consists of a minimum of 24 hours, and up to 40 hours of classroom activity followed by 24 hours of On-The-Job supervised field activity. In addition to this initial training, employees working in any hazardous area receive an additional 8 hours of refresher training (at a minimum) annually thereafter. A list of topics covered, but not limited to, is as follows:

1. Possible Site Hazards
 - a. Chemical Exposure
 - b. Fire and Explosion
 - c. Oxygen Deficiency
 - d. Biological Hazards
 - e. Electrical Hazards
 - f. Heat and Cold Emergencies
2. Emergency Response
 - a. Planning and Organization
 - b. Site Control
 - c. Emergency Contingency Plan
 - d. Emergency Equipment
 - e. Emergency Shutdown Procedures
 - f. Decontamination
3. Medical Program and Health Monitoring
4. Use and Care of Personnel Protection Equipment
5. First Aid and Cardio-Pulmonary-Resuscitation
6. Handling Hazardous Waste
7. Confined Space Entry
8. Spill Response and Corrective Measures

All supervisory personnel are required to have 8 hours of supervisory training in the related safety training areas in addition to the above. Within six months of an employee's initial assignment to a job, this training will be conducted and documented in the employee's training file.

All personnel are benefited by additional safety training through safety meetings and discussion, provided by management on a regular basis. On-The-Job training is continuous and ongoing, to further reinforce the emphasis of safety.

3.3 Environmental Protection

Second only to employee safety is the commitment by Clean Harbors Colfax, LLC to environmental protection. All employees are trained to perform assigned tasks in a safe, environmentally sound manner. Employees are instructed as to the most current standards and regulations in regard to the waste treatment operation conducted at the Colfax facility.

Additional training is provided to ensure that in the unlikely event of an emergency, personnel are knowledgeable as to the proper procedure to follow regarding corrective action as well as in reporting and documenting these circumstances. All employees are instructed in necessary emergency cleanup operations and decontamination .

3.4 Regulatory Requirements

Clean Harbors Colfax, LLC will provide training programs to all affected employees as required by various regulatory agencies. The following is a listing of training that is presently required by regulations.

1. OSHA Requirements
 - (a) 24 or 40 Hour Initial Hazardous Waste Training (in accordance with 29 CFR 1910)
 - (b) Respiratory Protection and Fit Testing
 - (c) Confined Space Entry
 - (d) Handling Carcinogenic Compounds
 - (e) Electrical Safety
 - (f) Moveable Vehicle including Fork Truck Training
 - (g) Emergency Response Procedures (in accordance with 29 CFR 1910)
 - (h) Welding and Cutting Operations
 - (i) 8-Hour Annual Refresher Training (in accordance with 29 CFR 1910)
2. DOT Requirements (49 CFR)
 - (a) Equipment Inspection
 - (b) Notification of Deficiency
3. RCRA/LDEQ/EPA Requirements (in accordance with LAC 33.V. and 40 CFR Parts 262, 263, 264, and 268)
 - (a) Emergency Equipment
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (b) Emergency Operations Shutdown
 - i. Location
 - ii. Proper Usage

- iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (c) Emergency Response
 - i. Contingency Plan
 - ii. Spill Prevention
 - iii. Spill Remediation, when necessary
 - (d) Monitoring Equipment, Communications
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (e) Annual Review of Initial Training (in accordance with LDEQ and RCRA)
- 4. ATF Regulatory Review (27 CFR)
 - (a) Transportation of Explosives
 - (b) Storage of Explosives
 - (c) Thermal Treatment of Explosives
- 5. Waste Minimization (as required by LAC 33.V and 40 CFR Part 264)

4.0 SPECIFIC TRAINING REQUIREMENTS

• Operations

The General Manager is responsible for ensuring that each operations employee has been properly trained and can demonstrate knowledge and proficiency in all areas of his job assignment. Each operations employee shall complete an annual review of the Standard Operating Procedures necessary for his/her particular job assignment.

1. Operator-Lead Explosives Tech, Explosives Tech, Maintenance Tech
 - a. General Safety
 - (1) Review of Facility Safety Rule and Regulations
 - (2) Use and Location of Fire Extinguishers
 - (3) Location and Operation of Emergency Showers and Eye Wash Stations
 - b. Equipment Operation
 - (1) Truck Unloading Area
 - (2) Preparation Building/Associated Equipment
 - (3) Burn Pad Units
 - c. Environmental Compliance
 - (1) Laws and Regulations
 - (2) Site Permit Requirements
 - (3) Compliance Methods
 - (4) Specific Duties
 - d. Material Familiarization
 - (1) Waste Classification
 - (2) Review Waste Safety Sheets
 - e. Emergency Procedures (Review of Contingency Plan)
 - (1) Fire and/or Explosion
 - (2) Injury
 - (3) Spills
 - (4) Surface Soils, Surface Water, and Groundwater Contamination
 - (5) Shutdown of Operations

In addition to the above training topics, all employees who manage wastes that may be subject to violent reactions are trained to recognize this possibility and to ensure that in these cases, only small quantities of such wastes are to be burned at a given time.

• Clerical/Shared Services Administrator (Plant Coordinator)

All clerical employees will be trained in those areas that are deemed to be desirable to

complement the basic secretarial and clerical skills already possessed. The General Manager is responsible for ensuring that all secretarial and clerical employees are properly trained to efficiently and courteously perform all assigned duties.

1. Telephone Usage and Etiquette
 - (a) Proper Identification Upon Answering Telephones
 - (b) Proper Emergency Notification Procedures
2. Form Recognition
 - (a) Standard Forms Utilized by the Company
 - (b) Various Waste Identification Forms
3. Required Record Keeping
 - (a) Clean Harbors Records Management
 - (b) State Records
 - (c) Reports/Operating Record
 - (1) Type of Documents Maintained/Required
 - (2) Dates Required
 - (3) Distribution
4. Filing
5. Environmental Compliance
 - (a) Laws and Regulations
 - (b) Site Permit Requirements
 - (c) Compliance Methods
 - (d) Specific Duties

• **Supervisory-Operations Manager**

ALL Supervisory Employees will be trained to perform effectively in all areas of their assigned jobs. Additionally, each supervisor will be trained so that he is knowledgeable, experienced, and capable of training other employees. The General Manager is responsible for ensuring that each supervisor and staff employee is properly trained.

1. General Safety
 - (a) Review of Facility Safety Rules and Regulations
 - (b) Use of Personal Protective Equipment
 - (c) Use and Location of Fire Extinguishers
 - (d) Location and Operation of Emergency Showers and Eye Wash Stations
2. Emergency Procedures (Contingency Plan)
 - (a) Fire and/or Explosion
 - (b) Injury
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 - (d) Surface Soils, Surface Water, and Groundwater Contamination
 - (e) Shutdown of Operations

3. Regulatory Familiarization
 - (a) Review of Federal RCRA Regulations
 - (b) Review of OSHA Regulations
 - (c) Review of Louisiana DEQ Regulations
 - (d) Review of all Site Permit Requirements
 - (e) Review of ATF Regulations
4. Material Familiarization
 - (a) Waste Material Classification
 - (b) Waste Safety Sheets and/or MSDS Information
5. Supervisory Techniques (A series of instruction courses completed as needed to strengthen weaknesses and complement strengths.)
6. Safety Training for Supervisors (A programmed instruction course to be completed under the leadership of the Health and Safety Department)
7. Accident - Incident Investigation (A course to be presented by the Health and Safety Department covering the techniques of investigation and report writing)
8. Company Policies
 - (a) Review of Procedures Manual
 - (b) Benefit Programs

- **Contractors/Outside Emergency Response Personnel**

All contractors and/or outside emergency response personnel (to the extent applicable) will be provided safety indoctrination to ensure the continued safe operations of the facility. Outside emergency personnel will also be periodically invited to visit the facility for tours of the site and informational training sessions to familiarize them with the layout of the facility, the evacuation routes, and the locations of on-site emergency response equipment. The General Manager will be responsible for ensuring that all contractor employees and emergency response personnel have been properly informed in all aspects of facility safety.

1. Facility Safety Policies and Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be provided a copy of the facility's safety policy and pertinent procedures to ensure safety.
2. Emergency Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be made familiar with Facility Contingency Plan.
3. Waste Safety Sheets - Copies of the Waste Safety Sheets, MSDS's, or other similar documents that include safety information will be made available for contractors based upon potential exposure. The General Manager will be responsible for providing this information to all contract employees.
4. Emergency Equipment - The General Manager will inform all contractors as well as

outside emergency response personnel regarding the location of fire extinguishers, safety showers, emergency eyewash stations, and first aid materials. Contractors will be provided a plot plan showing the location of all emergency equipment.

5. Security - The General Manager will provide security instructions to all contractors.
6. Environmental Compliance - The General Manager or the Compliance Manager will provide a compliance overview to all contractors.

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QUALIFICATIONS: Minimum four year technical or business, BS or BA degree from an accredited college, university, or equivalent. Minimum of five years experience or equivalent involving explosive/reactive operations. Experience in hazardous waste industry preferred.

SPECIFIC DUTIES:

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4. Develop written business plans, goals and objectives and develop strategies to attain them.
5. Ensure compliance with all regulatory requirements to maintain proper business operations.
6. Ensure a safe and healthful working and living environment for all employees, visitors, and surrounding neighbors.
7. Ensure a productive and motivated work force.
8. Maintain a good relationship and positive image with the local community.
9. Safeguard and maintain all physical assets at the facility.
10. Ensure an ROA on all assets acceptable to company guidelines and senior management.

- Operations Manager

BASIC FUNCTIONS: Supervises and manages daily facility explosive/reactive treatment

and directs explosive technicians daily routines and activities. Manages on site inventory control over explosive/reactive storage and tracking. Writes standard operating procedures (SOP) on explosive/reactive storage, on site transportation, treatment preparation and treatment processes. Provides facility management guidance in absence of General Manager. Assists facility management in providing quality service to all customers while maintaining compliance with regulatory requirements. Assists in maintaining positive community relations.

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1. Manages daily activities of explosive/reactive treatment operations of the Colfax Facility.
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4. Provides facility management guidance in g absence of General Manager.
5. Assists General Manager in developing plans, goals and objectives and strategies for achievement.
6. Assists General Manager in maintaining compliance with all regulatory requirements.
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8. Assists General Manager in maintaining a positive image and relationship with the local community.
9. Manages and conducts special projects as assigned.

- Lead Explosives Technician

BASIC FUNCTIONS: Supervises Explosive Technicians during preparation and disposal of energetic materials such as explosive/reactive waste.

QUALIFICATIONS: Minimum high school diploma, previous explosive or hazardous waste experience required, valid driver's license.

SPECIFIC DUTIES:

1. Oversees maintenance and equipment associated with operations of explosive/reactive waste handling, storage and treatment.
2. Conducts inspections and inventories of explosive reactive waste according to

established procedures.

3. Maintains required records for proper record keeping of explosive/reactive waste according to established procedures.
4. Operates and maintains communications, monitoring, alarm and security systems.
5. Provides direction on incoming explosive/reactive waste shipments, separates and stores according to compatibility.
6. Oversees preparation and loading of thermal treatment burners with explosive/reactive waste for treatment and disposal.
7. Maintains and utilizes personal protective equipment according to established procedures.
8. Performs additional responsibilities as assigned by supervisor.

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1. Maintains and operates all equipment associated with operations of explosive/reactive waste handling, storage, treatment, and maintenance.
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- **Plant Coordinator**

BASIC FUNCTIONS: Manages all aspects of facility Administration, Accounting, Purchasing, Human Resources, Customer Services and Facility Security and administrative office functions of Health & Safety, Environmental Affairs and Project Management by overseeing daily routines and managing staff activities to maintain a professional and efficient operation.

QUALIFICATIONS: Minimum two-year technical, business or Associate degree from an accredited college or university, or equivalent. Seven to eight years administrative experience or equivalent. Experience in hazardous waste industry or equivalent.

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4. Provides facility management as directed when Facility Manager is absent from facility.
5. Assists Facility Manager in developing plans, goals and objectives and strategies for achievement.
6. Assists Facility Manager in maintaining compliance with all regulatory requirements.
7. Assists Facility Manager in maintaining a safe and healthful working and living environment for all employees, visitors, and surrounding community.
8. Assists Facility Manager in maintaining a positive image and relationship with the local community.
9. Maintains accountability for all assets.
10. Manages and conducts special projects as assigned by Facility Manager.

A current facility organization chart is maintained on-site at all times. The position descriptions, including basic function, duties and job requirements presented for each of the above listed position titles are also maintained on-site at all times.

3.0 TRAINING PROGRAM

3.1 Orientation

All new employees participate in an orientation program designed to familiarize the employee with their new surroundings. To ensure that all appropriate topics are covered, an orientation checklist is completed and signed by all participating in the orientation. The completed checklist is then placed in the employee's personnel training file as a permanent record.

The following is a description of the Orientation Training:

1. Completion of all applicable personnel forms.
2. Discussion with the General Manager
 - a. Welcome
 - b. Organization and goals of:
 - (i) Facility
 - (ii) Company
3. Policies and Benefits
4. Safety
 - a. Safety Policy
 - b. Individual Responsibility
 - c. Accident and Incident Reporting
 - d. Issue and Discuss Safety Equipment (as appropriate)
 - (i) Safety Glasses
 - (ii) Respirator
 - (iii) Gloves
 - (iv) Rain Gear
 - (v) Rubber Boots
5. Regulatory Review
6. Job Description and Duties (as applicable)
7. Facility Tour
 - a. Storage Magazines
 - b. Preparation Building
 - c. Unloading Area
 - d. Burn Pad

3.2 Safety

Clean Harbors Colfax, LLC has a policy that no job shall be performed if that job endangers

the safety or health of any person. The company ensures that all employees are trained to safely perform assigned tasks. All workers assigned to work in an area of the facility where the potential exists for exposure to hazardous waste must complete an intense safety training as mandated by OSHA 29 CFR 1910.120. This training consists of a minimum of 24 hours, and up to 40 hours of classroom activity followed by 24 hours of On-The-Job supervised field activity. In addition to this initial training, employees working in any hazardous area receive an additional 8 hours of refresher training (at a minimum) annually thereafter. A list of topics covered, but not limited to, is as follows:

1. Possible Site Hazards
 - a. Chemical Exposure
 - b. Fire and Explosion
 - c. Oxygen Deficiency
 - d. Biological Hazards
 - e. Electrical Hazards
 - f. Heat and Cold Emergencies
2. Emergency Response
 - a. Planning and Organization
 - b. Site Control
 - c. Emergency Contingency Plan
 - d. Emergency Equipment
 - e. Emergency Shutdown Procedures
 - f. Decontamination
3. Medical Program and Health Monitoring
4. Use and Care of Personnel Protection Equipment
5. First Aid and Cardio-Pulmonary-Resuscitation
6. Handling Hazardous Waste
7. Confined Space Entry
8. Spill Response and Corrective Measures

All supervisory personnel are required to have 8 hours of supervisory training in the related safety training areas in addition to the above. Within six months of an employee's initial assignment to a job, this training will be conducted and documented in the employee's training file.

All personnel are benefited by additional safety training through safety meetings and discussion, provided by management on a regular basis. On-The-Job training is continuous and ongoing, to further reinforce the emphasis of safety.

3.3 Environmental Protection

Second only to employee safety is the commitment by Clean Harbors Colfax, LLC to environmental protection. All employees are trained to perform assigned tasks in a safe, environmentally sound manner. Employees are instructed as to the most current standards and regulations in regard to the waste treatment operation conducted at the Colfax facility.

Additional training is provided to ensure that in the unlikely event of an emergency, personnel are knowledgeable as to the proper procedure to follow regarding corrective action as well as in reporting and documenting these circumstances. All employees are instructed in necessary emergency cleanup operations and decontamination .

3.4 Regulatory Requirements

Clean Harbors Colfax, LLC will provide training programs to all affected employees as required by various regulatory agencies. The following is a listing of training that is presently required by regulations.

1. OSHA Requirements
 - (a) 24 or 40 Hour Initial Hazardous Waste Training (in accordance with 29 CFR 1910)
 - (b) Respiratory Protection and Fit Testing
 - (c) Confined Space Entry
 - (d) Handling Carcinogenic Compounds
 - (e) Electrical Safety
 - (f) Moveable Vehicle including Fork Truck Training
 - (g) Emergency Response Procedures (in accordance with 29 CFR 1910)
 - (h) Welding and Cutting Operations
 - (i) 8-Hour Annual Refresher Training (in accordance with 29 CFR 1910)
2. DOT Requirements (49 CFR)
 - (a) Equipment Inspection
 - (b) Notification of Deficiency
3. RCRA/LDEQ/EPA Requirements (in accordance with LAC 33.V. and 40 CFR Parts 262, 263, 264, and 268)
 - (a) Emergency Equipment
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (b) Emergency Operations Shutdown
 - i. Location
 - ii. Proper Usage

- iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (c) Emergency Response
 - i. Contingency Plan
 - ii. Spill Prevention
 - iii. Spill Remediation, when necessary
 - (d) Monitoring Equipment, Communications
 - i. Location
 - ii. Proper Usage
 - iii. Inspection Procedures
 - iv. Repair or Replacement Procedures
 - (e) Annual Review of Initial Training (in accordance with LDEQ and RCRA)
- 4. ATF Regulatory Review (27 CFR)
 - (a) Transportation of Explosives
 - (b) Storage of Explosives
 - (c) Thermal Treatment of Explosives
- 5. Waste Minimization (as required by LAC 33.V and 40 CFR Part 264)

4.0 SPECIFIC TRAINING REQUIREMENTS

• Operations

The General Manager is responsible for ensuring that each operations employee has been properly trained and can demonstrate knowledge and proficiency in all areas of his job assignment. Each operations employee shall complete an annual review of the Standard Operating Procedures necessary for his/her particular job assignment.

1. Operator-Lead Explosives Tech, Explosives Tech, Maintenance Tech
 - a. General Safety
 - (1) Review of Facility Safety Rule and Regulations
 - (2) Use and Location of Fire Extinguishers
 - (3) Location and Operation of Emergency Showers and Eye Wash Stations
 - b. Equipment Operation
 - (1) Truck Unloading Area
 - (2) Preparation Building/Associated Equipment
 - (3) Burn Pad Units
 - c. Environmental Compliance
 - (1) Laws and Regulations
 - (2) Site Permit Requirements
 - (3) Compliance Methods
 - (4) Specific Duties
 - d. Material Familiarization
 - (1) Waste Classification
 - (2) Review Waste Safety Sheets
 - e. Emergency Procedures (Review of Contingency Plan)
 - (1) Fire and/or Explosion
 - (2) Injury
 - (3) Spills
 - (4) Surface Soils, Surface Water, and Groundwater Contamination
 - (5) Shutdown of Operations

In addition to the above training topics, all employees who manage wastes that may be subject to violent reactions are trained to recognize this possibility and to ensure that in these cases, only small quantities of such wastes are to be burned at a given time.

• Clerical/Shared Services Administrator (Plant Coordinator)

All clerical employees will be trained in those areas that are deemed to be desirable to

complement the basic secretarial and clerical skills already possessed. The General Manager is responsible for ensuring that all secretarial and clerical employees are properly trained to efficiently and courteously perform all assigned duties.

1. Telephone Usage and Etiquette
 - (a) Proper Identification Upon Answering Telephones
 - (b) Proper Emergency Notification Procedures
2. Form Recognition
 - (a) Standard Forms Utilized by the Company
 - (b) Various Waste Identification Forms
3. Required Record Keeping
 - (a) Clean Harbors Records Management
 - (b) State Records
 - (c) Reports/Operating Record
 - (1) Type of Documents Maintained/Required
 - (2) Dates Required
 - (3) Distribution
4. Filing
5. Environmental Compliance
 - (a) Laws and Regulations
 - (b) Site Permit Requirements
 - (c) Compliance Methods
 - (d) Specific Duties

• **Supervisory-Operations Manager**

ALL Supervisory Employees will be trained to perform effectively in all areas of their assigned jobs. Additionally, each supervisor will be trained so that he is knowledgeable, experienced, and capable of training other employees. The General Manager is responsible for ensuring that each supervisor and staff employee is properly trained.

1. General Safety
 - (a) Review of Facility Safety Rules and Regulations
 - (b) Use of Personal Protective Equipment
 - (c) Use and Location of Fire Extinguishers
 - (d) Location and Operation of Emergency Showers and Eye Wash Stations
2. Emergency Procedures (Contingency Plan)
 - (a) Fire and/or Explosion
 - (b) Injury
 - (c) Spills
 - (d) Surface Soils, Surface Water, and Groundwater Contamination
 - (e) Shutdown of Operations

3. Regulatory Familiarization
 - (a) Review of Federal RCRA Regulations
 - (b) Review of OSHA Regulations
 - (c) Review of Louisiana DEQ Regulations
 - (d) Review of all Site Permit Requirements
 - (e) Review of ATF Regulations
4. Material Familiarization
 - (a) Waste Material Classification
 - (b) Waste Safety Sheets and/or MSDS Information
5. Supervisory Techniques (A series of instruction courses completed as needed to strengthen weaknesses and complement strengths.)
6. Safety Training for Supervisors (A programmed instruction course to be completed under the leadership of the Health and Safety Department)
7. Accident - Incident Investigation (A course to be presented by the Health and Safety Department covering the techniques of investigation and report writing)
8. Company Policies
 - (a) Review of Procedures Manual
 - (b) Benefit Programs

• **Contractors/Outside Emergency Response Personnel**

All contractors and/or outside emergency response personnel (to the extent applicable) will be provided safety indoctrination to ensure the continued safe operations of the facility. Outside emergency personnel will also be periodically invited to visit the facility for tours of the site and informational training sessions to familiarize them with the layout of the facility, the evacuation routes, and the locations of on-site emergency response equipment. The General Manager will be responsible for ensuring that all contractor employees and emergency response personnel have been properly informed in all aspects of facility safety.

1. Facility Safety Policies and Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be provided a copy of the facility's safety policy and pertinent procedures to ensure safety.
2. Emergency Procedures - The contractor's supervisor and/or foreman, along with all other contract personnel, will be made familiar with Facility Contingency Plan.
3. Waste Safety Sheets - Copies of the Waste Safety Sheets, MSDS's, or other similar documents that include safety information will be made available for contractors based upon potential exposure. The General Manager will be responsible for providing this information to all contract employees.
4. Emergency Equipment - The General Manager will inform all contractors as well as

outside emergency response personnel regarding the location of fire extinguishers, safety showers, emergency eyewash stations, and first aid materials. Contractors will be provided a plot plan showing the location of all emergency equipment.

5. Security - The General Manager will provide security instructions to all contractors.
6. Environmental Compliance - The General Manager or the Compliance Manager will provide a compliance overview to all contractors.

APPENDIX L
CLOSURE PLAN

CLEAN HARBORS COLFAX, LLC

CLOSURE PLAN

Revised August 2005

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I. PURPOSE

The primary purpose of this plan is to provide a comprehensive analysis of the resources that will be needed to conduct closure and post-closure activities at Clean Harbors Colfax, LLC. In addition, this plan is an integral part of the RCRA Part B Permit for the facility. This plan also provides the Louisiana Department of Environmental Quality (LDEQ) and the U.S. Environmental Protection Agency with documentation of Clean Harbors' intentions, preparations, and capabilities to properly close its thermal treatment facility near Colfax, Louisiana. The plan demonstrates and ensures the technical and financial capabilities of Clean Harbors Colfax, LLC as the owner and operator to carry out closure requirements. This plan describes closure in writing and in detail, so that independently planned steps can be anticipated, enforced, and recorded as actual work progresses. Finally, this plan is comprehensive so that closure work meet the following criteria:

- Safe Completion of Closure Activities - Designed to pose no threat of illness or injury to workers involved in closure activities, to persons using or occupying surrounding property, or to outsiders who may inadvertently approach the facility during closure.
- Orderly and Timely Completion of Closure Activities - Follows preplanned and agreed upon schedules for beginning and completing each step of closure.
- Environmental Soundness of Closure Activities - Designed to present no current or future endangerment to human health or the environment by ensuring that there is no escape of hazardous wastes into the environment.
- 100% RCRA Compliant Closure Activities - Meets requirements of the Hazardous Waste Management Regulations as described by the Louisiana Administrative Code (LAC) and RCRA.

In the unlikely event that all or some portion of the structures and media cannot be adequately decontaminated by way of the means described herein, the facility will propose contingent methodology at such time as it becomes necessary. Prior to implementing such changes to the Closure Plan, the facility will obtain the necessary approvals from LDEQ in accordance with the requirements of LAC 33:V.Chapter 35.

II. SCOPE

This closure plan was developed to describe the activities necessary to close the RCRA-permitted units located at the facility. In the development of the closure process for the subject RCRA units, the facility has assumed that the thermal treatment units can be used for the disposal of all wastes remaining in inventory at the time closure commences as well as some of the waste generated resides as a result of the closure activities. (For cost

purposes, the facility assumed that the on-site treatment activities would be completed by third party personnel.) Closure of the thermal treatment units will occur following the completion of all other RCRA closure activities described in this plan.

Details regarding the scope of the closure of the RCRA units at the facility are described below. Also included is brief summary of the ongoing Risk Based Corrective Action Evaluation Workplan for the "Old Burn Area." Details of the workplan and closure work completed to date are contained in subject workplan (November 1998) in Appendix M of the permit renewal application.

This closure plan includes closure procedures for the storage and treatment units. Detailed closure procedures are presented herein. In addition, brief information regarding the background of the facility and its layout is included below:

A. Site History

The facility initiated operations in June 1985 to assist the Louisiana State Police in treatment of explosives. The hazardous waste management storage units consisted of ATF approved storage magazines. The thermal treatment units were concrete pots or steel troughs located on top of concrete pads.

The facility was contacted by both military and non-military personnel regarding the potential treatment of reactive materials. Reactives and explosives were treated by the facility under a series of Emergency Permits issued by the LDEQ until the final RCRA permit became effective in May 1993.

B. Description of Units

The storage units consist of ten storage magazines that are designed in accordance with requirements established by the Bureau of Alcohol, Tobacco, and Firearms. The magazines are 10 feet by 20 feet in area and 8 feet high. The interior roof, doors, floors, and walls are lined with hardwood paneling (approximately 4 inches thick). Vents are installed in the walls and roofs to permit proper ventilation and to prevent the build-up of extreme heat or pressure.

Liquid storage magazines 8, 9 and 10 are equipped with 12-inch high thresholds at the door openings. The floor vents in these magazines are equipped with 12-inch high extensions.

All magazines are grounded to prevent the occurrence of an accidental fire or explosion from a lightning strike. The doors of the magazines are double locked with 5 tumbler locks and steel hoods. Appendix B of the permit renewal application contains typical cross sections of the magazines.

The thermal treatment area is constructed on a 700' by 130' reinforced concrete slab (6"

thick). The thermal treatment units consist of twenty (20) concrete curbed treatment pads (approximately 16' x 16' x 12 inches high) atop the slab, each equipped with an interchangeable burner assembly. Ten (10) of the burn pads are equipped with a 48-inch diameter by 4-foot tall reinforced concrete culvert topped by a steel cover (14 gauge). The burner assemblies for these ten pads consist of an open 42-inch diameter by 8-inch high steel pan. The other burner assemblies consist of a 6' by 6' square by 20 inches high open steel pan. All metal pans are constructed of 3/16-inch minimum steel thickness. Each of the treatment units is equipped with a retractable roof structure to prevent rainfall accumulation.

The preparation building is 40 feet wide by 40 feet long in plan with a concrete apron at the entrance. There is an L-shaped containment area in the back (approximately 18' x 60' and 10' x 12'). The structure is enclosed on three sides with a roll-up door on the front. The polyethylene washwater tank is located on the perimeter of the main floor area for this unit. The preparation building is supplied with electric power to operate the drill press and band saw used for preparation activities. All electrical switches, motors, controls, and lights conform to the requirements of Class II, Division 2 of the National Electric Code. The building floor plan is shown in Appendix B of the permit renewal application.

A covered truck staging/parking area is provided for overnight parking within the fenced treatment area. The staging/parking area consists of 4 bays constructed of reinforced concrete (approximately 16' x 75' each). Each bay is self-contained with raised curbs and sumps. Appendix B of the permit renewal application shows the foundation plan and details for this unit.

The liquid storage magazines loading/unloading unit is a reinforced concrete secondary containment area (approximately 28' x 75') located adjacent to storage magazines 8, 9 and 10. This area is covered to minimize precipitation accumulation and is designed to contain spilled liquid. The concrete base is sloped toward a centralized sump and raised curbs are located on the perimeter. Appendix B of the permit renewal application shows the foundation plan and details.

The maximum extent of operations that will be active during the life of the facility is the storing of the wastes in the ten storage magazines, ash storage in the ash container storage area, the use of the preparation building, and the treatment of wastes in the twenty open burners. The truck staging and containment areas will only be used for temporary staging of trucks waiting to unload and will not be used to hold waste inventory.

Final closure of the facility will occur when all stored wastes have been treated, treatment by-products have been removed from the site, and all waste management units have been cleaned. The storage magazines and preparation building will remain in service until all stored wastes have been prepared and removed for treatment. The open burners will remain in service until all onsite wastes, storage magazine wood interiors, and spill residues have been treated.

The "Old Burn Area" consisted of ten (10) burn pads and four (4) storage magazines. Operations ceased at the Old Burn Area in 1993 and transferred to the New Burn Area currently in use. Partial closure of this area was completed in 1997. Work included the removal of the burn pads and magazines, excavation of some underlying soils, sampling and analytical testing. Subsequently, a "Risk Based Corrective Action Evaluation Workplan" was submitted to the LDEQ for review and approval in November 1998. Details of the historical and proposed work activities are described in detail in the workplan located in Appendix M of the permit renewal application. This workplan outlined work activities required to complete the site assessment and evaluate the site's risks in accordance with the LDEQ Risk Evaluation/Corrective Action Program (RECAP). The implementation of this workplan will follow its own time schedule and will be completed prior to implementing the facility closure. However, closure cost estimate for this unit are provided in this plan. The workplan should be referenced for closure details. The cost estimate assumes that the results of the RECAP investigation/evaluation will demonstrate that the Old Burn Area in its current condition does not pose an unacceptable threat to human health and the environment and meets the criteria for "no further action at this time."

III. PRE-CLOSURE PREPARATION

A. Waste Scheduling

Generators, transporters, customers, and other parties involved in the shipment of wastes to the facility will be given appropriate notice of impending closure. The Closure Coordinator will ensure that the final shipments are scheduled to allow for disposal prior to the commencement of closure activities.

B. Equipment Inventory

The Closure Coordinator will prepare an equipment inventory, determining the proposed disposition of each item. The inventory will include the extent to which any item will be decontaminated and list the intended destination of any item to be removed from the site.

IV. CLOSURE ACTIVITIES

A. Closure of the Burn Unit and Associated Structures

At closure, the wastes stored in the magazines will be moved to the preparation building, and then the materials will be thermally treated in the burners. Untreated reactive material

spilled during the preparation and treatment procedures will be collected immediately and thermally treated. Ash residue generated from treatment will be collected and containerized for proper disposal. Disposal will comply with the Land Disposal Restrictions contained in LAC 33:V.Chapter 22. The treatment area concrete pad will be cleaned with mechanical sweepers or by manual sweeping and scrubbing, as needed. Residues will be disposed at an appropriate permitted facility.

Subsequent to final treatment and removal of waste, the steel burner assemblies (pans) and retractable roof covers will be dismantled and scrapped (smelter and not for reuse). The concrete burn pads will be removed and disposed at an appropriate permitted facility.

The treatment area concrete pad will then be pressure washed using an industrial detergent followed by a clean water rinse(s). The final rinsate from the pad will be sampled to demonstrate clean closure. The final rinsate from the pad will be sampled in each of the sump areas and analyzed for VOCs (SW-846 Method 8260, total metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Ni, V, Zn, Sb, Tl and Be) using SW-846 Method 6010B and SW-846 Method 7470A, and extractable explosives (SW-846 Method 8330). If the rinsate target constituent concentrations exceed TCLP, the rinsate will be treated as hazardous waste. Any contaminated rinsate will be pumped into a tanker truck or mobile storage tank (e.g., frac tanks) prior to being transported offsite to an approved permitted facility in accordance with all applicable requirements of LAC 33:V Chapter 22. If constituent concentrations are below background levels, the rinsate will be disposed of offsite as non-hazardous.

The detention pond was constructed to control the discharge rate of surface water offsite and is not a regulated storage unit. A 60 mil HDPE liner was placed over compacted subgrade to prevent migration of liquid to subsurface soil. Liquid head over the liner, which is the driving force for liquid migration through the liner, is a temporary phenomenon that occurs during significant storm events. The permeability of the liner is negligible. Therefore, impact to subsurface soil from detention of surface water is considered to be highly unlikely. The pond discharge is regulated through the Federal NPDES Storm Water program and is sampled in accordance with permit requirements. Any change in the discharge water quality will be detected and assessed through this program.

Even though the detention pond is not a RCRA regulated unit, the facility will examine subsurface soil below the pond in order to address LDEQ concerns regarding potential impact of surface water flow. Initially, accumulated sediment inside the pond, if any, will be sampled and analyzed for volatile organic compounds (VOCs) using SW-846 Method 8260, metals (using SW-846 Method 6010B and SW-846 Method 7470A), and extractable explosives by SW-846 Method 8330.

In addition to sampling accumulated sediment, the facility will sample soil beneath the HDPE liner at the location most likely to be impacted by surface water contaminant migration. This worst case area is located at the tie-in of the HDPE to the concrete discharge structure since the liquid head is greatest at this point. Discrete soil samples will be collected at this location at the surface and at a depth of 16 inches.

All samples will be collected using procedures described in the Sampling and Analysis Plan and will be analyzed for VOCs, total metals and extractable organics using the appropriate SW-846 Methods as identified in the previous section. Sediment and subsurface soil will be considered potentially impacted if the target constituents exceed the criteria described in Section G of this closure plan.

If accumulated sediment contains target compound concentrations greater than the closure criteria levels, it will be removed and disposed offsite at an approved permitted facility in accordance with the requirements of LAC 33:V.Chapter 22. If concentrations of target compounds exceeding closure criteria levels are found in soil beneath the liner a soil assessment plan for the detention pond will be developed. This assessment plan will address the vertical and horizontal extent of contamination. The plan will be submitted to the LDEQ for approval within 60 days of receipt of initial soil analytical results and will contain a schedule of implementation.

Other areas to be closed including the storage magazines, preparation building, truck staging and containment areas, and the ash container storage area will then be closed. The buildings and concrete pads will remain onsite or be removed at the facility's discretion.

The maximum extent of operations that will be active during the life of the facility is the storing of the wastes in the ten storage magazines, ash storage in the ash container storage area, the use of the preparation building, and the treatment of wastes in the twenty open burners. The truck staging and containment areas will only be used for temporary staging of trucks waiting to unload and will not be used to hold waste inventory.

Final closure of the facility will occur when all stored wastes have been treated, treatment by-products have been removed from the site, and all waste management units have been cleaned. The storage magazines and preparation building will remain in service until all stored wastes have been prepared and removed for treatment. The open burners will remain in service until all onsite wastes, storage magazine wood interiors, and spill residues have been treated.

B. Closure of the Truck Staging Area

Although this area is not a permitted waste management unit, the ash container storage area will be closed after all ash, spill residue and burner units have been removed from site. The truck staging and containment areas will no longer be required for receiving wastes when closure is initiated; however, they will remain in service for equipment decontamination as required until closure of other areas/units is complete.

The maximum inventory of untreated waste that would be onsite at any time during the operating life of the facility is provided in Table II of Part I. This value assumes all magazines are full, the burn pads are loaded, the preparation building has a full day's burn in processing, and the truck unloading area has a full day's burn waiting to be unloaded. The

specific activities required to meet the closure performance standard for existing and proposed units are discussed below.

Once all equipment has been decontaminated, the concrete containment areas will be pressure washed with a water/detergent followed by a fresh water rinse. Samples of the fresh water rinse will be collected from each sump and analyzed as described above for the direct burn area.

C. Closure of the Storage Magazines

Once all of the waste has been removed from the storage magazines, the wood interior will be manually swept to remove any loose debris. This material will be thermally treated in burn pans. Following this, the wood interiors will be removed and either thermally treated onsite and/or shipped offsite for disposal. Subsequent to removal and thermal treatment of the wood interiors, all ten magazines (storage units) shall be torched to remove any trace of reactive material. The interior will be then pressure washed with fresh water.

The final rinsewater for each magazine shall be sampled (one sample per magazine) within the unit and analyzed for VOCs (SW-846 Method 8260), total metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Ni, V, Zn, Sb, Tl and Be) using SW-846 Method 6010B and SW-846 Method 7470A, and extractable explosives (SW-846 Method 8330).

If extractable explosives or volatile organic compounds are detected based upon the lower detectable limits established by the analytical method, or if the concentrations of metals exceed background levels as established through analysis of source water, a decision will be made to repeat decontamination procedures or to declare the unit hazardous and dispose in a permitted facility. It is anticipated that one decontamination event will be required per unit in order to clean close. If the rinsewater clean closure criteria constituents are below background levels, the facility will dispose offsite as non-hazardous.

Once decontamination is complete, the magazine's metal exterior shell may be left in place and/or scrapped (smelter and not for reuse).

Following closure of the liquid storage magazines, the concrete unloading area will be pressure washed with a water/detergent followed by a fresh water rinse. A sample of the fresh water rinse will be collected from the sump following the procedures described above.

D. Closure of the Preparation Building

The preparation building will be closed by first cleaning and removing all equipment. Equipment will be cleaned by pressure washing with a water/detergent followed by a fresh water rinse. The equipment will then be removed from the building for further use at the owner's discretion.

After equipment removal, the building floor and walls will be pressure washed with a water/detergent followed by a fresh water rinse. Any deposits not removed by water washing will be scraped using hand tools. Washwater will be analyzed and handled as described for the storage magazines. Decontamination will be confirmed through final rinse analysis following the same procedures as described above.

E. Soil Sampling and Analysis

After all waste has been thermally treated, soil in the vicinity of the storage and treatment areas will be examined for signs of spillage. It is not anticipated that spilled waste will be present; however, any spilled waste will be removed with hand tools. Hand tools will be cleaned by detergent wash and clean water rinse with the washwater going to the polyethylene washwater tank. If at least one half of the removed media is spilled waste, then this removed media should be treated in the burners. If the spilled waste makes up less than one half of the removed media, then, the media must be sent to a permitted facility for treatment or disposal in accordance with Land Disposal Restrictions. Also, a surface soil sample will be collected after removal of the spilled material to verify the area is clean. The surface sample will be analyzed for VOCs (SW-846 Method 8260), total metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Cu, Ni, V, Zn, Sb, Tl and Be) using SW-846 Method 6010B and SW-846 Method 7470A, and extractable explosives (SW-846 Method 8330).

After storage magazines 1 - 7 have been closed, a discrete surface soil sample will be collected from an area adjacent to each entry. The discrete samples will be analyzed for the same constituents as listed above. If the levels of detectable compounds exceed the established criteria for clean closure, the following procedures will be implemented. Otherwise, the soil will be considered to be at background levels.

For the magazine(s) that show target constituents above closure criteria levels, the top six (6) inches of soil will be excavated from an area approximately four (4) feet by six (6) feet immediately adjacent to the concrete slab at the front entrance of the magazine. This will result in approximately 0.5 cubic yards of soil per unit where excavation is required. This soil will be sent to a permitted facility for disposal. Disposal will comply with the Land Disposal Restrictions contained in LAC 33:V.Chapter 22. Subsequent to soil removal a confirmation surface soil sample will be collected from the excavated area. The confirmation sample will be analyzed for the above stated parameters. If the confirmation sample meets the established criteria for clean closure described above, then the storage magazine area will be considered clean closed.

Annually surface soil samples are taken around the site to determine if there have been any impacts from the ongoing operations. Five (5) of these sample points are around the Thermal Treatment Unit (New Burn Area). After closure of this area, a total of seventeen (17) surface soil samples will be taken around this area and analyzed for the constituents listed above. Eight (8) of the sample points will be taken at the entry and exit points to this area (4 at each end flanking both sides spaced approximately 100 feet apart). The other sample points will be spaced around the unit and include the five (5) locations already

sampled annually for a total of seventeen (17) locations.

All soil samples collected for VOC analysis will be collected in accordance with SW-846 Method 5035, and all analyses will be completed by an LDEQ accredited laboratory. For purposes of establishing clean closure, all sample results will be compared to RECAP values and/or background values.

F. Disposal of Residuals

After the reactive wastes, storage magazine wood interiors, and any spill residues are thermally treated, the ash will be removed from the burners and containerized for disposal offsite. Disposal will comply with the Land Disposal Restrictions contained in LAC 33:V.Chapter 22. The metal trough burners, grates and retractable roof covers will be scrapped (smelter and not for reuse). The concrete burners pads will be disposed. These materials will be removed and containerized, or they will be loaded directly onto trucks for disposal at an approved facility. The burners, ash, spill residue, and concrete burn pads from burner locations which handled listed waste will be containerized and disposed of at a hazardous waste landfill site.

If VOCs or extractable explosives are detected above the lower detectable limits established by the analytical method, or if the concentrations of metals exceeds closure criteria levels, a decision will be made either to repeat decontamination procedures or to declare the unit hazardous and dispose in a permitted facility in accordance with the Land Disposal Restrictions of LAC 33:V.Chapter 22. It is anticipated that one decontamination event will be required per unit in order to clean close.

Annually surface soil samples are taken around the site (Soil Monitoring Plan in Appendix Z) to determine if there have been any impacts from the ongoing operations. Five (5) of these sample points 13, 14, 15, 16, and 17 are around the Thermal Treatment Unit (New Burn Area). After closure of this area, a total of seventeen (17) surface soil samples will be taken around this area and analyzed for the constituents listed above. Eight (8) of the sample points will be taken at the entry and exit points to this area (4 at each end flanking both sides spaced approximately 100 feet apart). The other sample points will be spaced around the unit and include the five (5) locations already sampled annually for a total of seventeen (17) locations. If it is determined that the soil in the vicinity of the treatment area has been impacted, an assessment plan will be developed as described previously for the detention pond.

At this time it is anticipated that an appropriate, approved and permitted landfill will be used to dispose of solid treatment residues for the purpose of this closure plan. Disposal will comply with the Land Disposal Restrictions contained in LAC 33:V.Chapter 22.

An appropriate, approved and permitted liquids treatment facility will be used to dispose of washwater and rinsate. In addition to the VOCs, metals and explosive analysis described in

previous sections, composite samples of the rinsate will be analyzed for reactivity, corrosivity and ignitability as required to assist in characterizing the rinse waters for disposal. The basis for the quantities of wastes, residues and decontamination liquids are provided in Exhibit III. All materials will be collected, containerized and disposed offsite at an approved permitted facility in accordance with the Land Disposal Restrictions of LAC 33:V. Chapter 22.

G. General Sampling, Analysis and Evaluation Requirements

All soil and water samples will be collected and analyzed in accordance with approved methods under SW-846. All sampling procedures will be designed to minimize the possibility of cross contamination and sample mismanagement. Sample containers which have been prepared by the receiving laboratory will be used with no further field preparation. All samples will be collected in accordance with the procedures outline in LDEQ's "Risk Evaluation/Corrective Action Program" (RECAP) document, latest edition, where applicable.

All soil and sediment samples taken for VOCs will be collected in accordance with USEPA SW-846 Method 5035. Otherwise soil and sediment samples will be collected using stainless steel spoons or a gloved hand to place the sample into the sample container. Sampling personnel shall wear a separate pair of disposable latex gloves for each sampling point.

Water samples will be collected directly from the final rinsate subsequent to cleaning operations. At each sampling location sampling personnel will wear a separate pair of disposable latex gloves. All sample containers for organic analysis will be filled completely to minimize or eliminate headspace between the sample and the container cap. Care will be taken to minimize disturbance of the sample.

Sample locations will be marked in the field and identification numbers will be assigned to each point. All sample containers will be labeled immediately after sample collection with a unique identification number to reflect the location and depth at which the sample was taken. Other information which will be provided includes the names of sampling personnel, time and date.

Sample containers will be cooled to 4 degrees Celsius and will be shipped to the laboratory within 24 hours of collection. A chain-of-custody record will accompany the shipment and every precaution will be taken to ensure that the sample integrity is maintained from point of collection to the laboratory.

An LDEQ accredited laboratory will complete all analyses. As required by RECAP, the laboratory will utilize SW-846 methods that will provide sample quantitation limits at the lowest practical quantitation limits (PQLs). These PQLs will generally be at or lower than any risk-based corrective action level (i.e. RECAP Screening Standard, background level, or

other derived RECAP standard). The LDEQ accredited laboratory prior to initiating closure activities will confirm the PQLs for all constituents. Any detection limit variances required by the laboratory will be reported to the LDEQ.

The clean criteria for the concrete containment areas will be the non-detections above the PQLs in the final rinsate samples for the VOCs, metals and explosive constituents less those detections resulting from background samples and/or the source of decontamination rinsate waters. The soil and sediment sample results will be compared to RECAP values. The naturally occurring constituents (e.g. metals) will be compared to background values, and/or screening standards. Background levels will be developed in accordance with RECAP standards. Non-naturally occurring constituents (e.g. VOCs and extractable explosives) sample results will be compared to the RECAP Screening Standards, unless a higher tier of RECAP evaluation is performed and approved by the LDEQ. Prior to closure, the source of water for these proposed closure activities will also be sampled for both the naturally and non-naturally constituents. These sampling results will form the basis for background values to be used in evaluating the final rinsate samples. Additional decontamination and re-sampling efforts are anticipated, and a reasonable cost estimate is included in this plan for such purposes.

V. STAFFING

A. Closure Coordinator

1. Qualifications:

The Closure Coordinator will have a technical education and experience in management of a hazardous waste facility. He/she will be well versed in thermal treatment of reactive materials and will be intimately familiar with the details of this plan. During pre-closure and closure periods, the General Manager may serve as Closure Coordinator.

2. Duties:

In preparation prior to closure, the Closure Coordinator will keep this plan current with periodic updates to reflect changes in the facility, in cost of implementation, or in applicable regulations. During closure, the Closure Coordinator will manage the facility until all wastes are thermally treated using standard operating procedures. After waste treatment operations are completed, the balance of closure procedures will be carried out under the supervision of the Closure Coordinator. He/she will serve as the Clean Harbors Colfax, LLC contact person for LDEQ inspection, evaluation, and approval activities. Finally, he/she will ensure that post-closure inspection and maintenance activities are accomplished as scheduled.

B. Closure Engineer

1. Qualifications

The Closure Engineer will be a Registered Louisiana Professional Engineer. He will be familiar with the design and operation of the facility. He will be thoroughly knowledgeable regarding all aspects of this plan. During closure, the Closure Engineer may also serve as Closure Coordinator.

2. Duties

The Closure Engineer will be available to consult in the formulation and any necessary revisions in this plan. He will be present to supervise the closure, so that closure activities are accomplished in accordance with this plan. After closure, the Closure Engineer will prepare and submit the certification required by the LAC 33:V.3517. Upon completion of post-closure care, the Closure Engineer will be responsible for the preparation and submittal of the certification required by LAC 33:V.3523.

VI. ADMINISTRATIVE REQUIREMENTS

A. Plan Review and Updating

1. Periodic Review

This plan will be reviewed by the Closure Coordinator and revised as necessary. The scope of planned closure activities will be expanded to include any modifications in processes, new construction, or changes in the capacity of wastes stored, treated, or disposed at the facility.

Costs of the above plan changes will also be included in the plan cost estimates. The cost estimate for closure will also be adjusted for inflation on an annual basis as required by LAC 33:V.3705 and 3709.

After a plan review, updating, and re-evaluation of costs, a revised plan will be prepared. Copies of the revised plan will be made available to the LDEQ and will be maintained at all time at the facility.

2. Other Required Reviews

After any significant changes in the facility operations or equipment and associated permit modifications, this plan will be reviewed to determine if changes are necessary.

Prior to the anticipated closure, this plan will be reviewed to ensure that all

proposed actions and estimated costs are accurate and up-to-date. The plan schedules will be converted from elapsed time to actual dates. A final implementation revision of the plan will be prepared and submitted to the Office of Environmental Services, Permits Division of LDEQ, at the time of notification of intention to close.

B. Notification of Intention to Close

1. Closure Engineer

The Closure Engineer will be notified of intended closure well in advance of closure activities. If necessary, he/she should provide consultation in preparing the final implementation revision of this plan, and support pre-closure preparations.

2. Office of Environmental Services, Permits Division (OESPD)

The Closure Coordinator will give written notification to the OESPD at least 180 days before commencing any closure activities. The following information will be provided:

- a. date of planned closure;
- b. requested changes, if any, in the closure plan which take advantage of new technology, unforeseen situations, and other requests which improve the safety of the closed facility;
- c. closure schedule and estimated costs of each phase of the closure plan; and
- d. request for release of closure funds in amounts and times as required by the closure schedule (to the extent applicable).

VII. COST ESTIMATES

A. Basis of Cost Estimates

Costs are based on the most expensive set of normal operating circumstances. This assumes a greatest extent/worst case situation but does not presuppose any spills or other accidental occurrences.

The cost for labor to thermally treat the remaining inventory assumes the cost necessary to pay third party personnel to manage the materials in the on-site thermal treatment unit.

The closure cost basis calculations and references are included in Exhibit III.

All costs estimates are based on 2004 dollars.

B. Total Costs Summary

Costs are summarized for Closure activities. A contingency of 10 percent is included. Refer to Exhibit IV.

IX. FINANCIAL ASSURANCE - CLOSURE

In accordance with LAC 33:V.3509.B, Clean Harbors Colfax, LLC will comply with the "Financial Assurance for Closure", LAC 33:V.4403, by providing OESPD with financial assurance in the form of insurance, providing OESPD with sufficient funds to cover the anticipated closure activities. Financial assurance documentation is provided in Appendix N.

EXHIBIT I

MAXIMUM PERMITTED OFF-SITE WASTE INVENTORY

<u>Waste Status</u>	<u>Amount</u>
Storage in Containers	593 cubic yards
Total hazardous waste storage inventory at closure: (50,000 pounds Net Explosive Weight)	593 cubic yards

Including waste in process, the total that might be present at the site (worst case) is 55,950 pounds of Net Explosive Weight.

EXHIBIT II

CLOSURE SCHEDULE

<u>Action to be Taken</u>	<u>Days from Closure Start Date</u>
Revise Plan (if needed)	-240 to -180
Notify LDEQ	by -180
Prepare Equipment Inventory	-180 to -30
Prepare Waste Schedule	-30 to -5
Receive Wastes	to -1
Begin Closure	0
Treat Stored Wastes	0 to +18
Closure Engineer to Inspect Empty Magazines	+18 to +25
Mobilize Decontamination Contractor	+25 to +32
Decontaminate Equipment, Removal & Clean-up	+32 to +65
Closure Engineer to Verify Decontamination	+65 to +125
LDEQ and Closure Engineer Inspection	+125 to +155
Conduct Measures to Achieve LDEQ Approval	+155 to +180
Complete Closure	by +180
Submit Closure Certification to LDEQ	by +240

EXHIBIT III

CLOSURE COST BASIS CALCULATIONS

Closure Plan – Closure Cost Estimates Quantities

Assumptions: Detergent Wash @ 800sf/hour

Fresh Water Rinse @ 800sf/hour

Disposal of Waters @ Deep Well in Plaquemine, La @ \$0.13/gal.

Transportation Colfax to Plaquemine = 202.6 miles @ \$3.10/mi. = \$628.06/load or
\$628.06/5500 gal/load = \$0.12/gal.

Total T&D = \$0.25/gal.

On-site Disposal Cost \$5,000/day

Disposal of Residues/Debris @ Chem Waste Carlyss @ \$150/cy

Transportation Colfax to Carlyss = 146.3 miles @ \$3.10/mi. = \$453.53/load

Sampling and Analytical Testing Costs – Rinsate = \$400/ea.

Sampling and Analytical Testing Costs – Soil/Sediment = \$500/ea.

Reactivity, Corrosivity and Ignitibility – Composite Rinsate Samples = \$70/ea.

Closure Supervisor - \$50.00/hr.

Closure Engineer - \$75.00/hr.

Wash Water generated at 4 gallons/square foot (EPA OSWER Directive 9476.00-6).

Waste Disposal (Inventory)

55,950 pounds maximum weight (net explosives)

Burn rate @ 3,150#/day = 55,950/3150 = 18 days

Waste Residues = 30 cy or 2 roll off containers = 2 loads

10 each Storage Magazines (Reference Drawings 108-110)

10 feet x 20 feet x 8 feet high; Interior floor, walls, ceiling and doorway covered with 4-inch thick hardwood.

Total surface area per magazine = $2(10' \times 20') + 2(10' \times 8') + 2(20' \times 8') = 880$ sf.

Total surface area = $10 \times 880 = 8800$ sf.

Volume of Wood = $8800 \text{ sf} \times 4''/12 = 2933.3$ cf

Add 10% for 2x4 nailer = $2933.3 \times 0.10 = 293.3$ cf

Total Volume of Wood = 3,227 cf or = $3,227/27 = 120$ cy.

Removal of Wood @ 1 hours/magazine x 10 = 10 hours

Torching of Magazines @ 1 hours/magazine x 10 = 10 hours

Time required per wash cycle = $8800/800 = 11$ hours

Time required per rinse cycle = $8800/800 = 11$ hours

Assume 1 additional wash/rinse cycle required for 1 magazine = $880/800 + 880/800 = 2.2$ hours

Total time for 1 wash and 1 rinse cycles = 24.2 hours

Amount of water generated for wash and rinse cycles = $4,840 \times 4 = 35,200$ gallons

Truck Parking/Staging Area:

Floor surface area (4 bays) = $68' \times 75' = 5100$ sf (Reference Drawing # 107)

Curb surface area = $8 \times 1.33 \times 75' = 798$ sf

Sumps surface area = $4 \times 2' \times 2' \times 5 = 80$ sf

Total surface area = $5100 + 798 + 80 = 5978$ sf

Total surface area per bay = $5978/4 = 1494.5$ sf

Time required for wash cycle = $5978/800 = 7.5$ hours

Time required for rinse cycle = $5978/800 = 7.5$ hours

Assume 1 additional wash/rinse cycle for 1 bay = $1494.5/800 + 1494.5/800 = 1.9 + 1.9 = 3.8$ hours

Total hours = $7.5 + 7.5 + 3.8 = 18.8$ hours

Amount of water generated for wash and rinse cycles = $5,978 \times 4 = 23,912$ gallons

Preparation Building:

Total Floor Surface Area = $(39.6' \times 40') + (18' \times 60') + (10' \times 12') = 2,784$ sf (Ref. Drawings 111-113)

Time required per wash cycle = $2784/800 = 3.5$ hours

Time required per rinse cycle = $2784/800 = 3.5$ hours

Total hours = 7.0 hours

Assume 10% of area requires additional wash/rinse = 0.7 hours

Total hours = 7.7 hours

Amount of water generated for wash and rinse cycles = $2,784 \times 4 = 11,136$ gallons

Truck Unloading – Liquid Storage Magazine Area:

Floor Surface Area = $28' \times 75' = 2100$ sf (Reference Drawing 107)

Sumps = $2' \times 2' \times 5$ sides = 20 sf

Curbs = $(6''/12) \times 2 \times 75' = 75$ sf

Total Surface Area = $2100 + 20 + 75 = 2,195$ sf

Assume 10% of Area requires additional wash/rinse = $2,195 \times 0.10 = 220$ sf

Total Surface Area = $2195 + 220 = 2,415$ sf

Time required for wash cycle = $2415/800 = 3.0$ hours

Time required for rinse cycle = $2415/800 = 3.0$ hours

Total hours = 6.0 hours

Amount of water generated during wash/rinse cycles = $2,415 \times 4 = 9,660$ gallons

Burn Pad Area:

Removal of burn pad pedestals @ 1 hours each $\times 20 = 20$ hours

Volume of concrete burn pad pedestals = $(20 \times 16' \times 16' \times 1.5') + 10[(3.14 \times 4') \times 4' \times (4''/12)]$

= $5120 + 14 = 5,136$ cf or $5,136/27 = 190$ cy

Transportation = $190/20 = 10$ loads

Metal burn pans and retractable roof covers – assume scrapped (scrap value = transportation costs)

Floor Surface Area = $700' \times 130' = 91,000$ sf

Sumps = 3 each $\times 2' \times 2' \times 5 = 60$ sf

Curbs = $(700' \times 6''/12) + 2(130' \times 1.25') + (700 \times 2') = 2075$ sf

Total = $91,000 + 60 + 2075 = 93,135$ sf

Assume 10% of area requires additional wash/rinse cycle = $93,135 \times 0.10 = 9,314$ sf

Total surface area = $93,135 + 9314 = 102,449$ sf

Time required for wash cycle = $102,449/800 = 128.1$ hours

Time required for rinse cycle = $102,449/800 = 128.1$ hours

Total hours = $128.1 + 128.1 = 256.2$ hours

Amount of water generated during wash/rinse cycles = $256.2 \times 200 = 51,240$ gallons

Total hours = $10 + 10 + 24.2 + 18.8 + 7.7 + 6 + 20 + 256.2 = 352.9$ hours

Assume 2 men @ 10 hour/day = $352.9/2 \times 10 = 18$ work days or 36 man-days

Total Volume of water = $102,449 \times 4 = 409,796$ gallons

Decontaminate Equipment (Excavator and Front End Loader):

Assume 1 man @ 4 hours/ machine x 2 machines = 8 hours

Assume 250 gallons/machine of rinse water = 500 gallons

Analytical Samples:

Rinsate Samples = Water Source (1) + Magazines (10 + 1) + Truck Parking/Staging Area (4 + 1)
+ Preparation Building (1+1) + Truck Unloading (1+1) + Burn Pad (3 +1) =
25

Soil/Sediment Samples = Pond (2 +1) + Magazines (7 + 1) + Thermal Treatment Unit – New
Burn Area (17) = 28

Composite Samples (Reactivity, Corrosivity & Ignitibility) = 4

Equipment Rental – assume 1 month:

Pressure Washer – \$450/month

Frac Tank – \$500/month

Vacuum Unit – \$4,500/month

Vacuum Box – \$270/month

PPE – \$25/man day

Excavator/Loader - \$1,575/month

Closure/Post-Closure Plan

Appendix L

Revised August 2005

Contingency Soil Excavation and Removal – Magazines and Pond Areas:

Assume 10 cy each removed from Magazine and Pond Areas

Assume 5 confirmation soil samples required

Closure Coordinator and Closure Engineer:

Closure Coordinator – 1 month or 175 hours

Closure Engineer – 80 hours

Excavation/Disposal of Soils	Quantity	Unit	\$	/Unit	Total
Storage Magazines	10	cy	\$ 150.00	cy	\$1,500
Detention Pond	10	cy	\$ 150.00	cy	\$1,500
Transportation (one truck)	1	ea	\$ 455.00	ea	\$455
Confirmation Samples	5	ea	\$ 750.00	ea	\$3,750
Sub-Total					\$7,205

Decontamination Excavator & Frontend Loader	Quantity	Unit	\$	/Unit	Total
Pressure Wash Equipment-Labor	8	hr	\$ 22.00	hr	\$176
Washwater Transportation and Disposal	500	gal	\$ 0.25	gal	\$125
Sub-Total					\$301

Misc. Equipment and Supplies	Quantity	Unit	\$	/Unit	Total
Mobile Tank Rental (1 month)	1	mo	\$ 500.00	mo	\$500
Pressure Washer (2 each for 1 month)	2	mo	\$ 450.00	mo	\$900
Vacuum Unit (1 month)	1	mo	\$ 4,500.00	mo	\$4,500
Roll Off/Vacuum Boxes (2 total for 1 month)	2	mo	\$ 270.00	mo	\$540
Excavator/Loader (1 month)	1	mo	\$ 1,575.00	mo	\$1,575
Biodegradable Detergent	1	ea	\$ 200.00	ea	\$200
Personnel Protective Equipment	36	man-days	\$ 25.00	ea	\$900
Sampling Supplies and Misc. Costs (Shipping and Handling)	1	ea	\$ 2,000.00	ea	\$2,000
Decontamination of Hand Tools and Misc. Cleanup Activities	1	ea	\$ 1,500.00	ea	\$1,500
Sub-Total					\$12,615

Engineering Certification/Inspections	Quantity	Unit	\$	/Unit	Total
Closure Coordinator	175	hr	\$ 50.00	ea	\$8,750
Closure Engineer	80	hr	\$ 75.00	ea	\$6,000
Sub-Total					\$14,750

Sub-Total Facility Closure Cost Estimate	\$322,432
Contingency (10%)	\$32,243
Total Facility Closure Cost Estimate	\$354,675

RECAP Closure of "Old Burn Area"

Field Work	Quantity	Unit	\$	/Unit	Total
Field Sampling Crew	8	days	\$ 2,200.00	ea	\$17,600
Surveying-Field	2	days	\$ 1,250.00	ea	\$2,500
Surveying-Office	2	days	\$ 500.00	ea	\$1,000
Analytical Testing-Soil Samples	90	ea	\$ 500.00	ea	\$45,000
Sample Shipment	1	lump sum	\$ 3,000.00	ea	\$3,000
Sub-Total					\$69,100

RECAP Data Evaluation and Reporting	Quantity	Unit	\$	/Unit	Total
Project Manager	240	hr	\$ 72.00	hr	\$17,280
Technician	240	hr	\$ 56.00	hr	\$13,440
Clerical	60	hr	\$ 32.00	hr	\$1,920
Drafting	60	hr	\$ 45.00	hr	\$2,700
Principal	40	hr	\$ 96.00	hr	\$3,840
Reproduction	1	lump sum	\$ 4,500.00	ea	\$4,500
Sub-Total					\$43,680

Exhibit IV

Revised Closure Cost Estimate - August 2005

Clean Harbors Colfax, LLC

Facility Closure

Disposal of Remaining Waste Inventory	Quantity	Unit	\$	/Unit	Total
Onsite Preparation and Treatment of Waste	18	days	\$ 5,000.00	day	\$90,000
Residue Disposal	30	cy	\$ 150.00	cy	\$4,500
Analytical	1	ea	\$ 500.00	ea	\$500
Transportation (2 loads)	2	ea	\$ 455.00	ea	\$910
Sub-Total					\$95,910

Decontamination of Magazines	Quantity	Unit	\$	/Unit	Total
Wood Removal/Torching-Labor	20	hr	\$ 22.00	hr	\$440
Ash Disposal	20	cy	\$ 150.00	cy	\$3,000
Ash Transportation	1	ea	\$ 455.00	ea	\$455
Analytical	1	ea	\$ 500.00	ea	\$500
Pressure Wash/Rinse Rinse-Labor	24.2	hr	\$ 22.00	hr	\$532
Washwater Transportation and Disposal	35200	gal	\$ 0.25	gal	\$8,800
Sub-Total					\$13,727

Truck Parking/Staging Area	Quantity	Unit	\$	/Unit	Total
Pressure Wash/Rinse Floors (Labor)	18.8	hr	\$ 22.00	hr	\$414
Washwater Transportation and Disposal	23912	gal	\$ 0.25	gal	\$5,978
Sub-Total					\$6,392

Preparation Building Decontamination	Quantity	Unit	\$	/Unit	Total
Equipment Cleaning/Removal (Labor)	8	hr	\$ 22.00	hr	\$176
Pressure Wash/Rinse Floors-Labor	7.7	hr	\$ 22.00	hr	\$169
Washwater Transportation and Disposal	11136	gal	\$ 0.25	gal	\$2,784
Sub-Total					\$3,129

Truck Unloading - Liquid Storage Mag. Area	Quantity	Unit	\$	/Unit	Total
Pressure Wash/Rinse-Labor	6	hr	\$ 22.00	hr	\$132
Washwater Transportation and Disposal	9660	gal	\$ 0.25	gal	\$2,415
Sub-Total					\$2,547

Treatment (Burn) Area Concrete Pad Decon	Quantity	Unit	\$	/Unit	Total
Removal of Burn Pad Pedestals-Labor	20	hr	\$ 22.00	hr	\$440
Disposal of Concrete	190	cy	\$ 150.00	cy	\$28,500
Transportation of Concrete	10	loads	\$ 455.00	load	\$4,550
Pressure Wash/Rinse Floors-Labor	256.2	hr	\$ 22.00	hr	\$5,636
Washwater Transportation and Disposal	409796	gal	\$ 0.25	gal	\$102,449
Sub-Total					\$141,575

Soil/Rinse Water Sampling and Analysis	Quantity	Unit	\$	/Unit	Total
Rinsate Samples	25	ea	\$ 400.00	ea	\$10,000
Soil/Sediment Samples	28	ea	\$ 500.00	ea	\$14,000
Composite Samples (Reactivity, Corrosivity & Ignitibility)	4	ea	\$ 70.00	ea	\$280
Sub-Total					\$24,280

Sub-Total RECAP Closure Cost Estimate	\$112,780
Contingency (10%)	<u>\$11,278</u>
Total RECAP Facility Closure Cost Estimate	<u>\$124,058</u>
Total Facility and RECAP Closure Cost Estimate	\$478,733

APPENDIX M

**Revised Replacement Pages to
RISK-BASED CORRECTIVE ACTION EVALUATION WORKPLAN
OLD BURN AREA**

**REVISED SITE INVESTIGATION WORKPLAN
OLD BURN AREA**

**CLEAN HARBORS COLFAX, LLC.
3763 HIGHWAY 471
COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791
AGENCY INTEREST NO. 32096**

PREPARED BY:



CAMERON-COLE

5777 CENTRAL AVE. #100
BOULDER, COLORADO 80301

DECEMBER 16, 2004
REVISED AUGUST 16, 2005

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7.4. DEFINITION OF THE AREA OF INVESTIGATION (AOI)

Investigation of surface soil shall focus on defining AOIs within the Old Burn Area. An AOI is defined as a contiguous zone of impact media that is defined vertically and horizontally by the presence of a COC concentration that exceeds the appropriate Screening Standard.

7.4.1. Identification of the Impact Extent

The following sections contain a description of the rationale to be used in soil sampling of the Old Burn Area, and the preliminary soil screening levels to be applied to the soil analytical results. The areas to be sampled are those relating to previous activities at the Old Burn Area AOI. Included are the Old Burn Area, former burn pad locations, and drainage features crossing and exiting the Old Burn Area. One of the four former storage magazine locations (Storage Magazine #4) will also be sampled, based upon previous investigation activities and analytical results.

A statistically-based sampling and analysis plan will be employed to evaluate the impact of previous activities at the Old Burn Area. The EPA's "*Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media*" (U.S. EPA, 1989c) was used for guidance in developing this plan. In accordance with this document, the Old Burn Area has been divided into four distinct sampling areas such that the sampling areas are as homogeneous as possible with respect to prior waste management activities. The four divisions provide a level of stratification to the random sampling approach, thus guaranteeing that the full extent of the Old Burn Area (exclusive of the former burn pads) is investigated. RECAP also states that at an AOI, where the COC is unevenly distributed, it may be appropriate to divide the AOI into multiple exposure areas and evaluate each area separately. The appropriateness of whether to evaluate each exposure area separately or to combine areas together will be reviewed upon assessment of the RECAP workplan analytical results.

Comparisons to RECAP Screening Standards (SS) will be used to determine if the AOI warrants further evaluation under a Management Option (MO). If the maximum source concentration detectable at the AOI is less than or equal to the SS, then the AOI shall not require further evaluation or action under the applicable MO. The SS can also be used to screen out areas of facility, media, or COCs that do not warrant further evaluation under a MO.

For metals concentrations, the soil sample results from the proposed investigation will also be compared to background levels. As required by the Annual Soil Monitoring Plan, the Facility has been sampling the near surface soils for metals analysis at seventeen (17) onsite and three (3) offsite locations shown on Figure 1A since the mid 1990's. The historical results shown in Table 6 (reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February 2005) have been compared to an established background data set to determine if there is any statistically significant increase in metals concentration that would indicate impact from the ongoing operations at the facility. No statistically significant increase in metal concentrations has been found at these locations through the 2004 sampling event. A review of the

annual soil sampling locations indicate that onsite locations S-1 through S-5 and offsite locations S-1 through S-3 (Figure 1A) are located the furthest from both the old and new burn units. These locations would result in the minimum required eight (8) discrete samples to define the background metals concentration as the arithmetic mean plus one standard deviation. The facility proposes to use for this project the earliest available complete data set from July 1996 for these eight (8) locations to define the background metals concentration. The nature and extent of potential metals contamination in soils at the Old Burn Area is currently undefined. Therefore, comparison of background metals data to the data collected during implementation of this workplan will be an important step to determine if metals are present at levels exceeding background levels at the Old Burn Area.

The sampling areas proposed for the permitted area of the Old Burn Area include:

- four sections of the area within the Old Burn Area boundaries excluding the ten former burn pad locations and drainage features (Figure 6),
- each former burn pad location (Figure 6),
- the drainage features crossing and exiting the Old Burn Area (Figure 7).

The designation of four sampling sections (Figure 6) in the Old Burn Area is based on separating the area of concern such that sampling will occur on either side of the pads and at locations both uphill and downhill from the pads. Random sample locations for each area will be generated independently. Statistical analysis of data from the four sections may be performed as a composite of all data, or independently, depending on the distribution of COCs. The four storage magazine locations will be treated as a unique sampling area and the overall approach to assessing potential impacts to this area will differ from the other areas, as described in the following sections.

With the exception of the four storage magazine locations, sample locations within each area or area section will be selected using a stratified random sampling approach. Random sample selection provides unbiased estimations of the population being analyzed, provided that contrary trends or patterns do not exist within the population (Gilbert, 1987). The assumption that such trends do not exist within each population is justified by dividing the site into distinct sampling areas based upon site features and use.

The vertical extent of contamination within each sampling area will be determined by sampling at two different depths below ground surface at each sampling location (Table 5). The depths at which samples are collected may be considered layers within the sampling areas. Based on the results of the samples collected, each layer may be evaluated as an independent population (AOI) and analyzed as such. Alternatively, the data may be evaluated as a composite data set representing the population of shallow surface soils at the Old Burn Area. A statistical analysis will be performed on the data from each layer, and/or from the full data set, to determine the potential horizontal and vertical extent of COC impacts within a sampling area.

The statistical evaluation that will be performed to determine the nature of impact to each sampling area will follow the guidelines outlined in Section 2.8 of RECAP. The distribution of data will be determined and appropriate transformations of the data will be performed, if necessary, to adhere to the underlying assumptions of the statistical analysis being utilized.

7.4.2. Sampling Approach

A brief description of the sampling areas and the manner in which sample locations will be determined within each is provided in the following sections.

Old Burn Area The area within the permitted Old Burn Area boundaries surrounding the former burn pad locations and the drainage features (Old Burn Area) will be analyzed independently from the former burn pads and drainage features. This will be done due to differences in the manner in which the permitted Old Burn Area was potentially impacted when compared to the former burn pads and drainage features. Due to site-specific features (former burn pad locations, prevailing wind directions, and flow within drainage features), the Old Burn Area has been divided into four sampling areas from which random sample locations will be determined. This approach should result in sampling of relatively homogeneous regions of the Old Burn Area with respect to the degree in which a region was potentially impacted, without the risk of completely missing some sample area. The four sampling areas are defined as sections in Figure 6.

Six sample locations will be randomly located within each section. Two samples will be collected at each location: one to investigate near surface soils from a depth of 0 to 1 foot bgs, and one from 2 to 3 feet bgs to determine if any vertical migration of COCs has occurred at locations away from the burn pads. To provide adequate sample coverage throughout sections and to ensure that the data is not spatially biased, the sample locations will be identified using randomly selected points within a grid system imposed over each section. Each section has been divided into a four block-by-six block grid (Figure 6), giving an approximate 20 by 40 foot size for each individual grid block. Six of the 24 grid blocks within a section will be randomly selected for sampling.

If a selected grid block contains portions of a former burn pad location or drainage feature in at least 25 percent of the area within the grid block, the grid block will be discarded, and a new grid block will be randomly selected from the remaining grid blocks. This selection process ensures that the sample collected is representative of the Old Burn Area and not of the former burn pads or drainage features. Each grid block selected will be subdivided into a two cell-by-three cell grid pattern with grid cells of equal size. One of the six subdivided grid cells will be randomly selected, and the sample location will be identified as the center of that grid cell. In the event that the sample location falls within a former burn pad location or a drainage feature, another grid cell will be randomly selected. All random selection will be performed using a random number generator.

A total of 24 soil sample locations (six sample locations within each of the four sections) and 48 samples will be collected in the area surrounding the ten former burn pad locations. The previously sampled perimeter

points will not be re-sampled as these points are biased in location and could not be properly used in the statistically-based analysis described herein.

The samples will be analyzed for metals and explosives following the analytical methods presented in Section 7.4.4. Two additional samples will be analyzed for SPLP metals and SPLP explosives from areas where metals and explosives were detected. Data from these samples will help to define leaching potential of COCs for evaluation of the protection of groundwater.

Former Burn Pad Locations Each former burn pad location will be evaluated as an independent sampling area. If sample results indicate that heterogeneity exists between former burn pad locations, resulting from previous use during thermal treatment activities, or due to excavation at some locations, then burn pads may require evaluation as independent AOIs. Because the potential for impact due to previous activities at the site is greatest at the former burn pad locations, the sample location density will be greater than in the adjacent areas described above.

Two sample locations will be identified within each of the 20 by 20 foot former burn pad locations. Two samples will be collected at each location. One sample will be collected from the near surface soils from a depth of 0 to 1 foot bgs. Results from this sample will allow for comparison to the previous sampling results, and will serve to verify the effectiveness of previous soil removal efforts. A second sample will be collected from a depth of 2 to 3 feet bgs to determine if any vertical migration of COCs has occurred at locations directly beneath the former burn pads. The samples from 0-1 ft and 2-3 ft will be analyzed for metals and explosives as in the Old Burn Area random samples.

Due to the relatively small size of the former burn pad locations, simple random sampling will be employed to select sample locations. Four sets of random local coordinates will be generated for each former burn pad location using a random number generator. A total of 20 soil sample locations (two sample locations within ten former burn pad locations) will be identified, and 40 samples will be collected.

Three additional samples will be collected from the 0 to 1 foot sample depth for analysis of SPLP metals and SPLP explosives. One SPLP sample will be collected from each of the three burnpads that had the highest explosive compound concentrations in the previous sampling events (i.e., burn pads D, H, and J). Data from these samples will help to define leaching potential of COCs for evaluation of the protection of groundwater.

Drainage Features The three main drainage features at the Old Burn Area have been divided into seven segments, each 200 feet in length (Figure 7). Each of these segments can be subdivided into ten 20-foot intervals. One interval in each segment will be chosen randomly for sediment sample collection. Sediment samples will be collected from the center of each drainage feature at a depth of 1 to 6 inches. Care will be taken to avoid inclusion of surface debris (plants and leaves) in the sediment samples. The samples will be analyzed for metals and explosives.

Storage Magazines Storage magazine soil samples will be collected at the former location of Storage Magazine #4. This corresponds to sample point S70 in Table 1, and is the only storage magazine location where explosives were detected in the previous sampling event. Based on past results, two Storage Magazine #4 locations will be sampled for extractable explosive analysis. Sample locations (two selected at random) and depths will be the same as described for the former burn pads. Sample depths will be 0 to 1 foot and 2 to 3 feet. Samples will be submitted for analysis of explosives only. There are no metals contained in the chemical structure of the un-burned explosives.

7.4.3. Sampling Methodology

All soil sampling and field investigation activities will be completed in accordance with the LDEQ-approved workplan, the most recent version of U.S. EPA SW-846 entitled "*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*," the site investigation requirements described in Appendix B of RECAP (LDEQ, October 20, 2003), the LDEQ and Louisiana Department of Transportation and Development (LDOTD) guidance documents entitled "*Construction of Geotechnical Boreholes*" and "*Groundwater Monitoring Systems Handbook*," and the LDOTD "*Water Well Rules, Regulations, and Standards*," as applicable. In addition, all laboratory analyses will be performed by an LDEQ-accredited analytical testing laboratory. A site-specific health and safety plan that meets RECAP requirements will also be developed prior to the start of any field activities.

All samples will be collected using Geoprobe sampling techniques. Because samples are non-volatile, all samples can be collected using split-spoon sampling methods. One-foot sample intervals from the split spoon will be obtained in brass sample tubes or similar sample containers. The soil samples will then be submitted to the analytical laboratory following appropriate chain-of-custody procedures. Approximately 8 ounces of material will be required for each the metals and explosives analysis (two brass tubes submitted for each sample). The soil samples will be sent via overnight courier under proper chain-of-custody documentation for analysis to an LDEQ-certified analytical laboratory. Soil sampling activities will be documented on soil boring logs and/or a bound logbook.

7.4.4. Analytical Testing

Each sample will be analyzed as specified in Table 5. The metals parameters will be analyzed using EPA Method 6010 (7471 for mercury), and the extractable explosive parameters will be analyzed using EPA Method 8330. The Synthetic Precipitation Leaching Procedure (SPLP—as described in RECAP Appendix H) will be performed on five samples (two from the Old Burn Area and three from the former burn pad locations) to quantify soluble explosives and metals concentrations. One equipment rinseate blank and one field duplicate sample will be collected for every twenty samples in accordance with RECAP.

7.4.5. Geotechnical Samples

In accordance with RECAP requirements, soil samples from selected boring locations at representative site locations will also be collected for analysis of physical and chemical properties to assist in the characterization of environmental fate and transport parameters. These data can be used to support determination of potential contaminant migration, dilution attenuation, or in support of potential corrective action evaluation. Soil samples will be collected from the unsaturated zone at three borings and analyzed for vertical intrinsic permeability/hydraulic conductivity by ASTM Method D5084 (or equivalent method), total organic carbon content by ASTM Method D2974 (or equivalent method), Unified Soil Classification System by ASTM D2487, Atterberg limits by ASTM Method D4318, particle size analysis by ASTM D422, and dry and wet bulk density, moisture content, and total porosity by appropriate ASTM methods. Additional physical and chemical properties testing may be performed as circumstances dictate.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location Sample Date METALS	S01										S02									
	0704	0703	0802	0701	0700	0799	0393	0797	0796	0596	0704	0703	0802	0701	0700	0799	0393	0797	0796	0596
Arsenic	< 6.3	< 5.5	< 5.3	< 5.5	< 5.5	< 5.5	< 5.0	< 5	< 5	< 5	< 6.1	< 5.4	< 6.0	< 5.4	< 5.1	< 5.2	< 5.0	< 5	< 5	< 5
Antimony	< 3.1	< 2.8	< 2.7	< 2.8	< 2.7	< 2.7	< 2.5	< 2.5	< 5	< 5	< 3.1	< 2.7	< 3.0	< 2.7	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 5
Barium	17	13	13	12.3	10.2	14.2	12	10	19.3	12.1	13	14	14	17.5	9.6	15.1	12	10	10.4	17.6
Beryllium	< 0.31	< 0.28	< 0.27	< 0.28	< 0.27	< 0.26	< 0.25	< 0.5	< 0.5	< 0.5	< 0.31	< 0.27	< 0.30	< 0.27	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5	< 0.5
Cadmium	< 0.31	< 0.28	< 0.27	< 0.28	< 0.27	< 0.26	< 0.25	< 0.5	< 0.5	< 0.5	< 0.31	< 0.27	< 0.30	< 0.27	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5	< 0.5
Chromium	3.2	2.9	3.2	2.6	1.5	3.2	1.7	1.3	0.6	1.5	2.9	3.4	2.9	2.3	1.6	2.7	< 1.0	1.5	0.7	3.3
Copper	< 1.3	< 1.1	< 1.1	< 1.1	< 1.1	1.6	1.1	< 1	1.9	1.10	< 1.4	< 1.1	< 1.1	< 1.3	1.1	1.5	1.1	1.90	1.37	2.30
Lead	8.2	7.5	6.9	6.2	5.9	6.8	6.8	3.7	7	< 5	8.4	8.4	8.3	8.8	7.4	12.0	7.4	6.1	7	8
Mercury	< 0.05	< 0.044	< 0.043	< 0.044	< 0.044	< 0.041	< 0.040	< 0.04	0.04	0.02	< 0.049	< 0.043	< 0.048	< 0.044	< 0.041	< 0.042	< 0.040	< 0.04	0.03	0.03
Nickel	< 1.3	< 1.1	< 1.1	< 1.1	< 1.1	< 1.0	< 1.0	< 1	3.1	< 0.5	< 1.2	< 1.2	< 1.2	< 1.1	< 1.0	< 1	< 1.0	< 1	< 0.5	< 0.5
Selenium	< 6.3	< 5.5	< 5.3	< 5.5	< 5.5	< 5.2	< 5.0	< 5	< 5	< 5	< 6.1	< 5.4	< 6.0	< 5.4	< 5.1	< 5.2	< 5.0	< 5	< 5	< 5
Silver	< 0.55	< 0.55	< 0.53	< 0.55	< 0.55	< 0.52	< 0.50	< 0.5	< 0.5	< 0.5	< 0.61	< 0.54	< 0.60	< 0.54	< 0.51	< 0.52	< 0.50	< 0.5	< 0.5	< 0.5
Thallium	< 3.1	< 2.8	< 2.7	< 2.8	< 2.7	< 2.6	< 2.5	< 2.5	< 5	< 5	< 3.1	< 2.7	< 3.0	< 2.7	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 5
Vanadium	7.4	6.6	7.3	6.1	4.6	8.0	5.2	4.1	6.6	4.3	6.5	7.5	6.0	5.1	1.0	6.9	3.9	3.7	4.91	5.2
Zinc	4.5	4.2	4.4	3.3	2.1	4.2	2.6	11	9.87	5.6	5.2	5.9	6.3	5.1	2.5	4.1	6.8	5.9	8.22	9.4
Total Solids (wt%)	80.0	91.0	94.0	90.2	91.2	96.8	98.3	93.2	85.6	97.7	82.0	93.0	83.0	91.9	97.4	95.5	91.9	93.6	87.6	83.3

Notes:
 Reference Table B.1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February, 2003.
 All data given in this table are in milligrams per kilogram (mg/kg).
 < 0.5% indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location		S03										S04									
Sample Date	0704	0703	0802	0701	0700	0799	0898	0797	0796	0596	0704	0703	0802	0701	0700	0799	0898	0797	0796		
METALS																					
Arsenic	< 6.4	< 5.2	< 5.8	< 5.9	< 5.2	< 5.4	< 5.0	< 5	< 5	< 5	< 6.3	< 5.5	< 5.6	< 6.0	< 5.3	< 5.2	< 5.0	< 5	< 5		
Antimony	< 3.2	< 2.6	< 2.9	< 3.0	< 2.6	< 2.7	< 2.5	< 2.5	< 5	< 5	< 3.2	< 2.7	< 2.8	< 3.0	< 2.6	< 2.6	< 2.5	< 2.6	< 5		
Barium	15	15	20	13.9	14.6	15.7	14	16	17.2	23	16	15	21	11.6	9.8	11.7	14	7.9	11.8		
Beryllium	< 0.32	< 0.26	< 0.29	< 0.30	< 0.26	< 0.27	< 0.25	< 0.5	< 0.5	< 0.5	< 0.32	< 0.27	< 0.28	< 0.30	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5		
Cadmium	< 0.32	< 0.26	< 0.29	< 0.30	< 0.26	< 0.27	< 0.25	< 0.5	< 0.5	< 0.5	< 0.32	< 0.27	< 0.28	< 0.30	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5		
Chromium	2.2	2.5	2.8	2.3	1.5	2.0	1.1	< 1	< 0.5	1.7	1.6	1.5	3.8	1.3	1.1	1.3	< 1.0	< 1	< 0.5		
Copper	< 1.3	1.0	1.5	< 1.2	1.1	1.1	2.3	2.2	< 0.5	1.3	< 1.3	< 1.1	1.5	< 1.2	< 1.1	< 1	4.9	< 1	< 0.5		
Lead	7.4	7.2	8.8	7.3	7.3	8.0	6.9	6.9	< 5	< 5	6.7	6.0	8.0	5.3	5.2	6.6	7.9	4.4	< 5		
Mercury	< 0.051	< 0.042	< 0.046	< 0.048	< 0.042	< 0.043	< 0.040	< 0.04	0.04	0.02	< 0.051	< 0.044	< 0.045	< 0.048	< 0.042	< 0.042	< 0.040	< 0.04	0.03		
Nickel	< 1.3	< 1.0	1.2	< 1.2	< 1.0	< 1.1	< 1.0	< 1	< 0.5	< 0.5	< 1.3	< 5.5	5.6	< 6.0	< 5.3	< 5.2	< 5.0	< 5	< 5		
Selenium	< 6.4	< 5.2	< 5.8	< 5.9	< 5.2	< 5.4	< 5.0	< 5	< 5	< 5	< 6.3	< 5.5	< 5.6	< 6.0	< 0.53	< 0.52	< 0.50	< 0.5	< 0.5		
Silver	< 0.64	< 0.52	< 0.58	< 0.59	< 0.52	< 0.54	< 0.50	< 0.5	< 0.5	< 0.5	< 0.63	< 0.55	< 0.56	< 0.60	< 0.53	< 0.52	< 0.50	< 0.5	< 0.5		
Thallium	< 3.2	< 2.6	< 2.9	< 3.0	< 2.6	< 2.7	< 2.5	< 2.5	< 5	< 5	< 3.2	< 2.7	< 2.8	< 3.0	< 2.6	< 2.6	< 2.5	< 2.6	< 5		
Vanadium	5.2	5.5	6.1	5.2	5	5.4	3.9	3.2	4.17	4.8	3.5	3.4	10	3.1	1.9	3.1	3.4	1.8	2.88		
Zinc	4.2	4.1	5.2	4.6	3.1	4.1	12	5.1	6.64	7.5	6.8	5.0	8.7	4.2	3	3.9	53	7.4	12.9		
Total Solids (wt%)	78.0	95.0	86.0	84.1	95.8	92.5	94.3	78.3	85.0	83.0	79.0	91.0	90.0	83.2	95.0	95.8	90.7	75.9	86.7		

Notes:
 Reference Table B-1 in Appendix B of the 2001 Annual Soil Monitoring Report dated February, 2005.
 All data given in milligrams per kilogram (mg/kg)
 <# indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location Sample Date	S05										S06									
	0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796		
METALS																				
Arsenic	< 6.0	< 5.6	< 6.1	< 6.2	< 5.2	< 5.4	< 5.0	< 6.6	< 5	< 5.9	< 5.3	< 5.7	< 6.1	< 5.1	< 5.2	< 5.0	< 5	< 5		
Antimony	< 3.0	< 2.8	< 3.0	< 3.1	< 2.6	< 2.7	< 2.5	< 2.5	< 5	< 2.9	< 2.6	< 2.8	< 3.0	< 2.5	< 2.6	< 2.5	< 2.5	< 5		
Barium	15	19	17.0	22.0	16	18.5	58	11	28.3	18	14	23	10.6	13	15.8	17	15	18.5		
Beryllium	< 0.30	< 0.28	< 0.30	< 0.31	< 0.26	< 0.27	< 0.25	< 0.5	< 0.5	< 0.29	< 0.26	< 0.28	< 0.30	< 0.25	< 0.26	< 0.25	< 0.5	< 0.5		
Cadmium	< 0.30	< 0.28	< 0.30	< 0.31	< 0.26	< 0.27	< 0.25	< 0.5	< 0.5	< 0.29	< 0.26	< 0.28	< 0.30	< 0.25	< 0.26	< 0.25	< 0.5	< 0.5		
Chromium	2.4	2.7	2.7	2.1	1.4	2.2	3.8	1.9	< 0.5	1.2	1.3	< 1.4	1.2	1.0	1.2	< 1.0	< 1	< 0.5		
Copper	< 1.4	< 1.1	1.3	1.3	1	1.1	2.6	< 1	1.5	1.3	< 1.1	1.1	1.2	< 1.0	< 1	1.6	< 1	< 0.5		
Lead	7.7	9.0	8.2	8.1	6.6	9.7	13	6.9	< 5	6.1	5.1	6.5	5.6	6.7	7.4	6.6	5.4	< 5		
Mercury	< 0.048	< 0.045	< 0.049	< 0.049	< 0.042	< 0.043	< 0.040	< 0.04	0.03	< 0.047	< 0.042	< 0.05	< 0.048	< 0.041	< 0.041	< 0.040	< 0.04	0.04		
Nickel	< 1.2	< 1.1	< 1.2	< 1.2	< 1.0	< 1.1	< 1.0	< 3.5	< 0.5	< 1.2	< 1.1	< 1.1	< 1.2	< 1.0	< 1	< 1.0	< 2.5	< 0.5		
Selenium	< 6.0	< 5.6	< 6.1	< 6.2	< 5.2	< 5.4	< 5.0	< 0.5	< 5	< 5.9	< 5.3	< 5.7	< 6.1	< 5.1	< 5.2	< 5.0	< 5	< 5		
Silver	< 0.6	< 0.6	< 0.6	< 0.62	< 0.52	< 0.54	< 0.50	< 0.5	< 0.5	< 0.59	< 0.53	< 0.57	< 0.61	< 0.51	< 0.52	< 0.50	< 0.5	< 0.5		
Thallium	< 3.0	< 2.8	< 3.0	< 3.1	< 2.6	< 2.7	< 2.5	< 2.5	< 5	< 2.9	< 2.6	< 2.8	< 3.0	< 2.5	< 2.6	< 2.5	< 2.5	< 5		
Vanadium	5.1	5.8	5.9	4.5	3.4	5.0	13	6.9	3.6	2	2.6	2.8	2.1	1.9	2.7	1.5	1.4	1.91		
Zinc	3.0	3.5	3.5	3.7	1.7	2.2	5.7	6.4	8.78	5.5	3.2	5.8	2.4	2.1	2.9	7.8	4.7	12.3		
Total Solids (wt%)	83.0	90.0	82.0	80.9	96	92.4	83.5	73.4	82.0	85.0	95.0	88.0	82.5	98.4	96.6	91.2	82.6	86.5		

Notes:
Reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February 2005.
All data given in milligrams per kilogram (mg/kg).
<# # indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location		S07									S08								
Sample Date	0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796	
METALS																			
Arsenic	< 7.1	< 6.0	< 6.1	< 5.9	< 5.4	< 5.5	< 5.0	< 0.58	< 5	< 7.1	< 5.9	< 6.2	< 6.8	< 5.5	< 5.7	< 5.0	< 0.53	< 5	
Antimony	< 3.6	< 3.0	< 3.0	< 3.0	< 2.7	< 2.8	< 2.5	< 2.9	< 5	< 3.6	< 3.0	< 3.1	< 3.4	< 2.8	< 2.9	< 2.5	< 2.7	< 5	
Barium	12	11	14	9.3	10.2	10.5	8.5	9.2	8.4	23	28	20	38.3	21.0	26.0	45	71	23.2	
Beryllium	< 0.36	< 0.30	< 0.30	< 0.30	< 0.27	< 0.28	< 0.25	< 0.5	< 0.50	< 0.36	< 0.30	< 0.31	< 0.34	< 0.28	< 0.29	< 0.25	< 0.5	< 0.5	
Cadmium	< 0.36	< 0.30	< 0.30	< 0.30	< 0.27	< 0.28	< 0.31	< 0.5	< 0.5	< 0.36	< 0.30	< 0.31	< 0.34	< 0.28	< 0.29	< 0.25	< 0.5	< 0.5	
Chromium	2.5	2.7	2.8	2.4	2.2	3.6	1.3	1.7	< 0.5	5.4	7.7	6.2	7.1	4.5	5.8	2.1	1.9	3	
Copper	2.4	1.8	2.8	1.4	1.4	1.5	< 1.0	1.8	< 0.5	4.3	3.8	3.1	3.8	2.8	3.2	7.7	2.3	2.8	
Lead	6.9	7.0	7.9	5.4	6.6	6.6	6.1	6.2	< 5	11	13	13	17.1	9.6	14.8	16	12	< 5	
Mercury	< 0.057	< 0.048	< 0.049	< 0.047	< 0.043	< 0.044	< 0.040	< 0.04	0.04	< 0.057	< 0.047	< 0.05	< 0.054	< 0.044	< 0.046	< 0.040	0.097	0.06	
Nickel	< 1.4	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.0	1.4	1.5	1.4	1.8	1.5	2.0	< 1.1	1.4	1.4	2.2	1.6	
Selenium	< 7.1	< 6.0	< 6.1	< 5.9	< 5.4	< 5.5	< 5.0	< 5	< 5	< 7.1	< 5.9	< 6.2	< 6.8	< 5.5	< 5.7	< 5.0	< 5	< 5	
Silver	< 0.71	< 0.60	< 0.61	< 0.59	< 0.54	< 0.55	< 0.50	< 0.58	< 0.5	< 0.71	< 0.59	< 0.62	< 0.68	< 0.55	< 0.57	< 0.50	< 0.53	< 0.5	
Thallium	< 3.6	< 3.0	< 3.0	< 3.0	< 2.7	< 2.8	< 2.5	< 2.9	< 5	< 3.6	< 3.0	< 3.1	< 3.4	< 2.8	< 2.9	< 2.5	< 2.7	< 5	
Vanadium	7.4	7.5	8.1	6.6	6.7	10.1	6.1	6.1	5.7	13	17	14	15.1	12.3	14.5	6.8	4.6	14.3	
Zinc	3.4	3.7	4.0	4.2	2	2.9	1.6	14	9	8.8	14	10	10.1	5.2	10.0	10	15	11.7	
Total Solids (wt%)	70.0	83.0	82.0	84.4	92.1	90.7	91.9	64.6	82.5	70.0	84.0	80.0	73.8	90.7	87.0	88.1	73.5	72.5	

Notes:
Reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February 2005.
All data given in milligrams per kilogram (mg/kg).
< 0.05 indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location		S09										S10									
Sample Date		0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796		
METALS																					
Arsenic		< 7.0	< 5.4	< 5.8	< 6.2	< 5.2	< 5.2	< 5.0	< 5	< 5	< 5.9	< 5.8	< 5.6	< 6.0	< 5.2	< 5.3	< 5.0	< 5	< 5		
Antimony		< 2.7	< 2.7	< 2.9	< 3.1	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3.0	< 2.9	< 2.8	< 3.0	< 2.6	< 2.7	< 2.5	< 52.5	< 5		
Barium		32	28	40	22.8	23.5	34.1	29	25	35	12	22	15	20.0	32.1	27.5	16	16	19.8		
Beryllium		< 0.35	< 0.27	< 0.29	< 0.31	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5	< 0.3	< 0.29	< 0.28	< 0.30	< 0.26	< 0.27	< 0.25	< 0.5	< 0.5		
Cadmium		< 0.35	< 0.27	< 0.29	< 0.31	< 0.26	< 0.26	< 0.55	< 0.5	< 0.5	< 0.3	< 0.29	< 0.28	< 0.30	< 0.26	< 0.27	< 0.31	< 0.5	< 0.5		
Chromium		2.3	2.5	3.4	2.0	1.7	2.9	5.6	1.2	3.1	1.9	3.5	3.0	2.7	5.1	3.0	1.9	3	2.7		
Copper		2.1	1.1	2.6	1.3	1.1	1.8	9.5	< 1	6.2	< 1.2	1.5	< 1.1	1.3	2.7	1.6	< 1.0	< 1	1.5		
Lead		9.0	9.1	8.5	7.0	8.8	8.8	10	6.8	< 5	4.1	6.1	6.5	7.2	7.5	8.7	4.8	4.5	< 5		
Mercury		< 0.056	< 0.043	< 0.046	< 0.050	< 0.042	< 0.042	< 0.040	< 0.04	0.04	< 0.048	< 0.047	< 0.045	< 0.048	< 0.041	< 0.043	< 0.040	< 0.04	0.04		
Nickel		< 1.4	1.2	1.7	< 1.2	< 1	1.2	4.5	2.3	4.2	< 1.2	< 1.2	< 1.1	< 1.2	< 1.1	< 1.1	< 1.0	< 1.9	< 0.5		
Selenium		< 7.0	< 5.4	< 5.8	< 6.2	< 5.2	< 5.2	< 5.0	< 5	< 5	< 5.9	< 5.8	< 5.6	< 6.0	< 5.2	< 5.3	< 5.0	< 5	< 5		
Silver		< 0.7	< 0.54	< 0.58	< 0.62	< 0.52	< 0.52	< 0.50	< 0.5	< 0.5	< 0.59	< 0.58	< 0.56	< 0.60	< 0.53	< 0.53	< 0.50	< 0.5	< 0.5		
Thallium		< 3.5	< 2.7	< 2.9	< 3.1	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3	< 2.9	< 2.8	< 3.0	< 2.6	< 2.7	< 2.5	< 2.5	< 5		
Vanadium		5.4	5.4	7.1	4.6	4.5	6.8	5.9	3.5	5.5	4.9	7.6	6.7	5.5	13.8	7.4	5.8	5.4	8.8		
Zinc		6.2	5.3	8.3	5.2	3.4	7.1	35	6.5	9.2	2.4	5.3	3.2	3.7	5.4	4.1	1.9	6.2	5.9		
Total Solids (wt%)		72.0	93.0	86.0	80.1	95.4	95.4	91.3	77.6	83.3	84.0	86.0	88.0	83.0	97	93.5	94.4	79.8	85.0		

Notes:
 Reference Table B-1 in Appendix B of the 2001 Annual Soil Monitoring Report dated February, 2003.
 All data given in milligrams per kilogram (mg/kg).
 <# indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location		S11-										S12-									
Sample Date		0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796		
METALS																					
Arsenic		< 67	< 59	< 64	< 62	< 56	< 56	< 5	< 547	< 5	< 6	< 58	< 61	< 61	< 53	< 52	< 50	< 0.58	< 5		
Antimony		< 34	< 30	< 32	< 31	< 28	< 28	< 25	< 28	< 5	< 3	< 29	< 31	< 31	< 26	< 26	< 25	< 29	< 5		
Barium		23	20	22	20.1	35	24.1	19	25	13.6	10	9.9	9.7	9.1	10.3	10.1	12	13	10.5		
Beryllium		< 0.34	< 0.3	< 0.32	< 0.31	< 0.28	< 0.28	< 0.25	< 0.5	< 0.5	< 0.3	< 0.29	< 0.31	< 0.31	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5		
Cadmium		< 0.34	< 0.3	< 0.32	< 0.31	< 0.28	< 0.28	< 0.28	< 0.5	< 0.5	< 0.3	< 0.29	< 0.31	< 0.31	< 0.26	< 0.26	< 0.32	< 0.5	< 0.5		
Chromium		23	28	25	27	2	24	1.3	1.4	0.9	1.8	2.2	2.1	1.9	1.2	1.6	1.5	1.8	< 0.5		
Copper		2	12	17	15	24	24	< 1	1.9	1.4	1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.0	< 1.0	< 1.5	1.3		
Lead		6.8	7.2	6.8	6.5	8.1	8.7	6.6	8.2	< 5	5.8	5.8	6.4	5.9	5.6	5.6	5.6	7.1	< 5		
Mercury		< 0.054	< 0.047	< 0.051	< 0.050	< 0.045	< 0.044	< 0.04	0.048	0.05	< 0.048	< 0.046	< 0.049	< 0.049	< 0.042	< 0.042	< 0.040	< 0.04	0.02		
Nickel		< 1.3	< 1.2	< 1.3	< 1.2	< 1.3	< 1.1	< 1	< 3.4	< 1.4	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.0	< 1.0	< 1.2	< 0.5		
Selenium		< 67	< 59	< 64	< 62	< 56	< 56	< 5	< 5	< 5	< 6	< 58	< 61	< 61	< 53	< 52	< 50	< 5	< 5		
Silver		< 0.67	< 0.59	< 0.64	< 0.62	< 0.56	< 0.56	< 0.5	< 0.57	< 0.5	< 0.6	< 0.58	< 0.61	< 0.61	< 0.53	< 0.52	< 0.50	< 0.58	< 0.5		
Thallium		< 34	< 30	< 32	< 31	< 28	< 28	< 25	< 28	< 5	< 3	< 29	< 31	< 31	< 26	< 26	< 25	< 29	< 5		
Vanadium		62	69	65	68	58	68	54	42	63	43	50	49	47	35	40	46	59	43		
Zinc		54	47	48	49	6	48	49	7.7	6.1	3	32	34	30	1.9	2.8	2.4	8.1	5.1		
Total Solids (wt%)		74.0	84.0	78.0	80.4	89.6	90.1	88.2	68.5	82.9	84.0	87.0	81.0	81.6	81.6	96.0	90.8	69.2	86.5		

Notes:
Reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February 2005.
All data given in milligrams per kilogram (mg/kg).
<# # indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location Sample Date METALS	S13-										S14-									
	0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796		
Arsenic	< 5.9	< 5.3	< 6.0	< 6.3	< 5.2	< 5.1	< 5.0	6.2	< 5	< 6.5	< 5.8	< 6.0	< 6.4	< 5.3	< 5.4	< 5.0	< 5	< 5		
Antimony	< 2.9	< 2.7	< 3.0	< 3.2	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3.2	< 2.9	< 3.0	< 3.2	< 2.6	< 2.7	< 2.5	< 2.5	< 5		
Barium	30	33	39	31.3	34.4	30.8	28	27	26.7	53	66	52	57.2	57.6	67.0	53	62	66.2		
Beryllium	< 0.29	< 0.27	< 0.30	< 0.32	< 0.26	< 0.26	< 0.25	< 0.5	< 0.5	< 0.41	< 0.29	< 0.36	< 0.40	< 0.28	< 0.31	< 0.25	< 0.5	< 0.5		
Cadmium	< 0.29	< 0.27	< 0.30	< 0.32	< 0.26	< 0.26	< 0.25	< 0.59	< 0.5	< 0.32	< 0.29	< 0.30	< 0.32	< 0.26	< 0.27	< 0.47	< 0.5	< 0.5		
Chromium	5.2	7.2	4.4	5.5	3.1	3.6	2.2	2.7	2.4	7.5	11	9.6	7.6	3.9	6.3	3.2	3.2	2.3		
Copper	12	8.9	3.1	3.8	2.6	6.6	4.2	5	1.9	32	38	7.1	11.1	24.4	20.5	8.4	4.8	5.1		
Lead	12	11	8.5	9.5	8.4	11.8	8.8	6.3	< 5	< 0.052	< 0.047	< 0.048	< 0.051	< 0.042	< 0.043	< 0.040	< 0.04	0.03		
Mercury	< 0.047	< 0.042	< 0.048	< 0.050	< 0.042	< 0.041	< 0.040	< 0.04	0.02	< 0.052	< 0.047	< 0.048	< 0.051	< 0.042	< 0.043	< 0.040	< 0.04	0.03		
Nickel	1.3	2.3	1.4	1.5	< 1.0	1.1	< 1.0	< 1	1.8	1.7	3.3	1.9	1.6	1.3	1.8	< 1.0	< 1	2.2		
Selenium	< 5.9	< 5.3	< 6.0	< 6.3	< 5.2	< 5.1	< 5.0	< 5	< 5	< 6.5	< 5.8	< 6.0	< 6.4	< 5.3	< 5.4	< 5.0	< 5	< 5		
Silver	< 0.59	< 0.53	< 0.60	< 0.63	< 0.52	< 0.51	< 0.50	< 0.5	< 0.5	< 0.65	< 0.58	< 0.60	< 0.64	< 0.53	< 0.54	< 0.50	< 0.5	< 0.5		
Thallium	< 2.9	< 2.7	< 3.0	< 3.2	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3.2	< 2.9	< 3.0	< 3.2	< 2.6	< 2.7	< 2.5	< 2.5	< 5		
Vanadium	12	15	9.3	11.9	8.4	8.5	7.9	7.1	8.9	15	19	17	15.1	8.8	13.9	12	12	10.5		
Zinc	7.6	9.9	7.4	8.4	4.1	8.0	4.1	8.2	6.1	12	16	12	11.1	8.1	13.6	70	11	11.3		
Total Solids (wt%)	85.0	94.0	83.0	79.3	95.4	97.4	93.1	96.3	92.4	77.0	86.0	83.0	78.2	94.9	92.9	83.3	91.2	80.2		

Notes:
Reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February 2005.
All data given in milligrams per kilogram (mg/kg).
c/s #s indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location Sample Date METALS	S15									S16								
	0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796
Arsenic	< 6.8	< 5.5	< 7.1	< 6.8	< 5.4	< 5.4	< 5.0	< 5	< 5	< 5.9	< 5.6	< 6.1	< 5.6	< 5.1	< 5.2	< 5	< 5	< 5
Antimony	< 3.4	< 2.8	< 3.6	< 3.4	< 2.7	< 2.7	< 2.5	< 2.5	< 5	< 3	< 2.8	< 3.1	< 2.8	< 2.5	< 2.6	< 2.5	< 3.8	< 5
Barium	67	41	48	54.6	42.8	31.3	28	25	55.5	41	58	54	59.0	40.4	42.1	36	48	39.4
Beryllium	< 0.34	< 0.28	< 0.36	< 0.34	< 0.27	< 0.27	< 0.25	< 0.5	< 0.5	< 0.3	< 0.28	< 0.31	< 0.28	< 0.25	< 0.26	< 0.25	< 0.5	< 0.5
Cadmium	< 0.34	< 0.28	< 0.36	< 0.34	< 0.27	< 0.24	0.50	< 0.5	< 0.5	< 0.3	< 0.28	< 0.31	< 0.28	< 0.25	< 0.26	< 0.47	< 0.5	< 0.5
Chromium	3.3	3.9	3.4	4.0	2	2.2	2.9	1	0.8	7.8	10	8.4	7.3	3.5	5.6	3.1	3.1	2.2
Copper	22	8.8	7.6	11.8	8.1	4.8	2.1	3	7.2	13	9.2	24	17.8	14.2	20.3	11	5.7	3.8
Lead	33	17	17	23.5	22.3	11.8	9.6	6.9	16	12	15	26	26.2	16.2	17.9	9.5	8.4	7
Mercury	< 0.054	< 0.044	< 0.057	< 0.055	< 0.043	< 0.043	< 0.040	< 0.04	0.03	< 0.047	< 0.045	< 0.049	< 0.045	< 0.041	< 0.041	< 0.04	< 0.04	0.03
Nickel	2.6	1.8	1.9	2.1	1.4	1.1	< 1.0	< 1	3.5	2.9	3.2	2.9	2.4	1.3	2.7	1.4	1.5	2.6
Selenium	< 6.8	< 5.5	< 7.1	< 6.8	< 5.4	< 5.4	< 5.0	< 5	< 5	< 5.9	< 5.6	< 6.1	< 5.6	< 5.1	< 5.2	< 5	< 5	< 5
Silver	< 0.68	< 0.55	< 0.71	< 0.68	< 0.54	< 0.54	< 0.50	< 0.5	< 0.5	< 0.59	< 0.56	< 0.61	< 0.56	< 0.51	< 0.52	< 0.5	< 0.5	< 0.5
Thallium	< 3.4	< 2.8	< 3.6	< 3.4	< 2.7	< 2.7	< 2.5	< 2.5	< 5	< 3	< 2.8	< 3.1	< 2.8	< 2.5	< 2.6	< 2.5	< 2.5	< 5
Vanadium	6.5	15	7.6	7.4	5.7	5.9	10	3.9	6.1	17	20	16	14.2	8.8	12.1	11	8.7	12.6
Zinc	14.0	9.0	9.5	11.7	6.1	4.7	24	5.1	10.6	18	14	15	13.3	5.9	10.1	7.6	12	12.2
Total Solids (wt%)	74.0	91.0	70.0	73.3	92.3	92.1	85.4	93.2	73.9	85.0	89.0	81.0	88.6	98.2	96.7	95.2	97	84.7

Notes:
Reference Table B-1 in Appendix B of the 2004 Annual Soil Monitoring Report dated February, 2005.
All data given in milligrams per kilogram (mg/kg).
<# indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

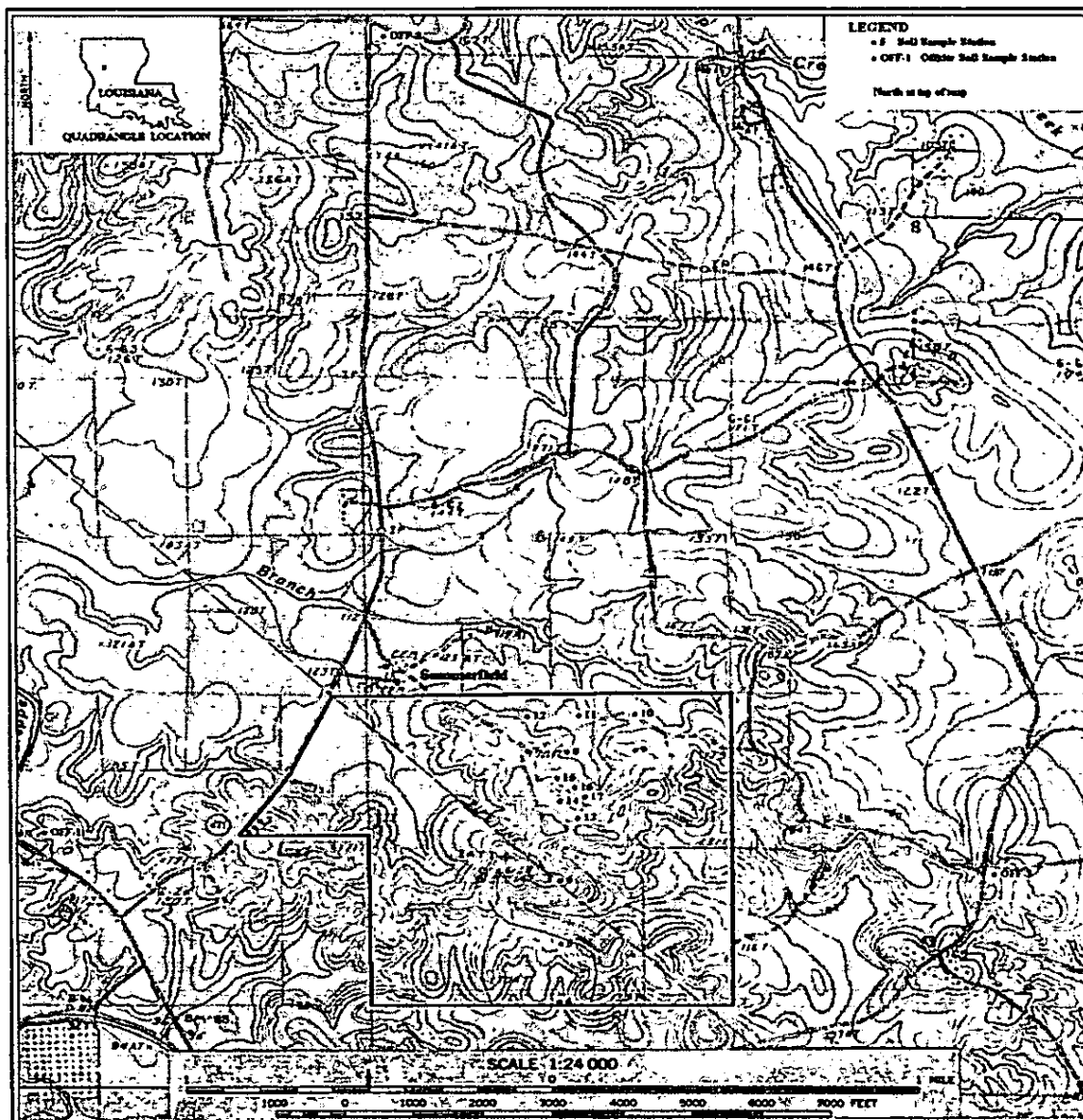
Location	Sample Date	S17-										OFF1-									
		0704	0703	0802	0701	0700	0799	0898	0797	0796	0704	0703	0802	0701	0700	0799	0898	0797	0796	0596	
METALS	Arsenic	< 6.3	< 5.7	< 5.7	< 6.4	< 5.3	< 5.3	< 5.0	< 5	< 5	< 6.2	< 5.6	< 5.6	< 5.9	< 5.5	< 5.6	< 5.0	< 6.2	< 5	< 5	
	Antimony	< 3.1	< 2.8	< 2.9	< 3.2	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3.1	< 2.8	< 2.8	< 3.0	< 2.7	< 2.8	< 2.5	< 3.1	< 5	< 5	
	Barium	75	85	70	63.4	57.0	58.0	40	19	60.0	38	14	57	47.5	44.5	46.1	12	57.0	66.8	67.4	
	Beryllium	0.47	0.35	0.31	0.37	0.27	0.33	< 0.25	< 0.5	< 0.5	< 0.31	< 0.28	0.29	< 0.30	0.38	0.39	< 0.25	< 0.5	< 0.5	< 0.5	
	Cadmium	< 0.31	< 0.28	< 0.29	< 0.32	< 0.26	< 0.26	0.52	< 0.5	< 0.5	< 0.31	< 0.28	< 0.28	< 0.30	< 0.27	< 0.28	< 0.25	0.56	< 0.5	< 0.5	
	Chromium	8.8	9.9	8.6	8.5	4.1	10.3	1.8	2	4.7	7	3.2	18	16.9	11.7	16.0	8.3	10.0	< 0.5	12.8	
	Copper	37	110	10	5.6	7	5.4	2.2	18	4.0	3.3	1.1	4.4	5.4	3.4	5.3	8.1	2.5	4.9	4.6	
	Lead	16	19	16	11.0	12.5	11.4	5.7	13	8.0	6.1	7.6	21	11.6	14.9	9.3	9.2	11.0	< 5	11.0	
	Mercury	< 0.05	< 0.045	< 0.046	< 0.051	< 0.042	< 0.042	< 0.040	< 0.04	0.03	< 0.049	< 0.045	< 0.045	< 0.047	< 0.044	< 0.045	< 0.040	< 0.04	0.10	0.05	
	Nickel	2.5	3.4	2.5	2.0	1.7	6.6	< 1.0	1.3	2.7	3	1.1	6.6	6.0	4.1	5.9	< 1.0	2.7	6.9	5.6	
	Selenium	< 6.3	< 5.7	< 5.7	< 6.4	< 5.3	< 5.3	< 5.0	< 5	< 5	< 6.2	< 5.6	< 5.6	< 5.9	< 5.5	< 5.6	< 5.0	< 5	< 5	< 5	
	Silver	< 0.63	< 0.57	< 0.57	< 0.64	< 0.53	< 0.53	< 0.50	< 0.5	< 0.5	< 0.62	< 0.56	< 0.56	< 0.59	< 0.55	< 0.56	< 0.50	< 0.62	< 0.5	< 0.5	
	Thallium	< 3.1	< 2.8	< 2.9	< 3.2	< 2.6	< 2.6	< 2.5	< 2.5	< 5	< 3.1	< 2.8	< 2.8	< 3.0	< 2.7	< 2.8	< 2.5	< 3.1	< 5	< 5	
Vanadium	21	20	18	17.3	9.8	18.0	7.4	62	16.4	13	7.2	24	23.5	17.6	22.7	7.1	15.0	28.1	17.3		
Zinc	16	19	16	14.3	7.8	13.5	6.5	8.1	12.9	11	4.7	15	15.5	10	14.2	250	20.0	18.6	21.0		
Total Solids (wt%)		80.0	88.0	87.0	78.4	94.5	94.8	92.6	79.5	83.4	81.0	90.0	89.0	84.6	91.1	89.3	98.4	64.2	76.6	76.5	

Notes:
Reference Table B-1 in Appendix B of the 2001 Annual Soil Monitoring Report dated February, 2005.
All data given in milligrams per kilogram (mg/kg).
< 0.05 indicates result is below the practical quantitation limit (PQL) shown.

TABLE 6
HISTORICAL ANNUAL SOIL SAMPLES ANALYTICAL DATA
METAL CONSTITUENTS
CLEAN HARBORS COLFAX, LLC - COLFAX, LOUISIANA
EPA FACILITY ID NO. LAD 981 055 791

Location	OFF2										OFF3									
	0704	0703	0602	0701	0700	0799	0698	0797	0796	0596	0704	0703	0502	0701	0700	0799	0698	0797	0796	0596
Sample Date																				
METALS																				
Arsenic	< 6.7	< 5.5	< 5.6	< 5.4	< 5.1	< 5.2	< 5.0	< 5.5	< 5	< 5	< 6.4	< 5.5	< 6.2	< 5.2	< 10.0	< 7.7	< 5.0	< 5.1	< 5.00	< 5.00
Antimony	< 3.3	< 2.7	< 2.8	< 2.7	< 2.5	< 2.6	< 2.5	< 2.5	< 5	< 5	< 3.2	< 2.7	< 3.1	< 2.6	< 2.8	< 2.9	< 2.5	< 2.5	< 5.00	< 5.00
Barium	42	40	38	44.0	36.4	24.8	49	33.0	48.6	59.2	39	43	31	24.5	129	129	13	12.0	11.7	22.1
Beryllium	0.39	< 0.27	< 0.28	< 0.27	< 0.31	< 0.26	0.27	< 0.5	< 0.5	< 0.5	< 0.38	< 0.27	< 0.31	< 0.26	1.3	1.1	< 0.25	< 0.5	< 0.50	< 5.00
Cadmium	< 0.33	< 0.27	< 0.28	< 0.27	< 0.25	< 0.26	0.32	< 0.5	< 0.5	< 0.5	< 0.32	< 0.27	< 0.31	< 0.26	0.32	0.37	< 0.25	< 0.5	< 0.50	< 5.00
Chromium	13	13	7.3	17.5	6.7	6.3	11	7.8	4.6	14.8	23.0	4.5	2.8	2.0	18.2	20.4	2.0	< 1	1.08	1.7
Copper	4.7	1.9	1.7	1.8	1.4	1.1	2.3	1.7	2.6	3.2	3.6	1.5	1.5	1.1	7.2	6.9	8.4	1.2	< 0.50	< 0.50
Lead	11	7.9	5.9	5.9	5.9	5.3	12	5.0	6.0	13.0	6.1	7.9	7.5	7.3	39.6	32.5	17	7.3	< 5.00	13.0
Mercury	< 0.053	< 0.044	< 0.045	< 0.043	< 0.040	0.068	< 0.040	< 0.04	0.17	0.13	< 0.051	< 0.044	< 0.050	< 0.041	0.066	0.052	0.047	0.05	0.05	0.05
Nickel	5.7	2.8	2.6	2.5	1.7	1.4	3.4	1.2	2.8	2.3	3.0	< 5.5	< 6.2	< 5.2	< 5.7	< 5.8	< 5.0	< 5	< 5.00	< 5.00
Selenium	< 6.7	< 5.5	< 5.6	< 5.4	< 5.1	< 5.2	5.6	< 5	< 5	< 5	< 6.4	< 5.5	< 6.2	< 5.2	< 5.7	< 5.8	< 5.0	< 0.51	< 0.50	< 0.50
Silver	< 0.67	< 0.55	< 0.56	< 0.54	< 0.51	0.52	< 0.50	< 0.51	< 0.5	< 0.5	< 0.64	< 0.55	< 0.62	< 0.52	< 0.57	< 0.58	< 0.50	< 2.5	< 5.00	< 5.00
Thallium	< 3.3	< 2.7	< 2.8	< 2.7	< 2.5	< 2.6	< 2.5	< 2.5	< 5	< 5	< 3.2	< 2.7	< 3.1	< 2.6	< 2.8	< 2.9	< 2.5	< 2.5	< 5.00	< 5.00
Vanadium	19	15	9.2	15.5	11.3	7.0	18	11.0	11.5	16.1	21	11	6.4	4.5	45.6	< 1.2	6.2	2.8	4.0	4.2
Zinc	14	5.8	6.6	4.0	2.7	2.8	56	10.0	8.3	11.9	8.2	6.8	4.2	4.8	14.8	20.0	180	11.0	7.08	8.8
Total Solids (wt%)	75.0	91.0	89.0	92.0	99.0	95.8	87.4	76.2	86.2	89.9	78.0	91.0	81.0	96.6	88.4	86.6	88.2	72.1	88.3	92.3

Notes:
 Reference Table B-1 in Appendix B of the 2001 Annual Soil Monitoring Report dated February 2005.
 All data given in milligrams per kilogram (mg/kg)
 <# # indicates result is below the practical quantitation limit (PQL) shown.



SAMPLE POINT	LATITUDE (DEG-MIN-SEC)	LONGITUDE (DEG-MIN-SEC)	SAMPLE POINT	LATITUDE (DEG-MIN-SEC)	LONGITUDE (DEG-MIN-SEC)
OFF-1 Inter.	31:34:16	92:44:13	# 7	31:34:30	92:42:31
OFF-2 Inter.	31:36:31	92:43:18	# 8	31:34:30	92:42:45
OFF-3 Inter.	31:34:20	92:40:33	# 9	31:34:31	92:42:33
OFF-1	31:34:13	92:44:13	# 10	31:34:38	92:42:33
OFF-2	31:36:25	92:43:09	# 11	31:34:37	92:42:44
OFF-3	31:34:19	92:40:33	# 12	31:33:36	92:42:51
# 1	31:34:15	92:43:38	# 13	31:34:20	92:42:43
# 2	31:34:16	92:43:39	# 14	31:34:22	92:42:46
# 3	31:34:17	92:43:40	# 15	31:34:23	92:42:46
# 4	31:33:49	92:42:46	# 16	31:34:26	92:42:45
# 5	31:33:59	92:42:46	# 17	31:34:25	92:42:43
# 6	31:34:09	92:42:46			

FIGURE 1A

SOIL SAMPLE STATION LOCATIONS
Clean Harbors (COLFAX), INC.
COLFAX, LOUISIANA



1655 Convention Street 2nd Floor Baton Rouge, LA 70802

Date: July 2005

Source: Survey, New Orleans

1994 USGS type Colfax, LA 1992

ADDITION TO APPENDIX P
AGENCY LETTERS



MITCHELL J. LANDRIEU
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF STATE PARKS

ANGÈLE DAVIS
SECRETARY

STUART JOHNSON, PH.D.
ASSISTANT SECRETARY

June 27, 2005

Paul Andrews
Clean Harbors, LLC.
13351 Scenic Highway
Baton Rouge, La 70809

Re: Clean Harbors / Colfax

Dear Mr Andrews,

I am responding to your request for our review of your hazardous waste permit renewal for the Clean Harbors Colfax facility. The staff has examined the site map for the referenced facility located in Grant Parish near the City of Colfax. Our review has revealed that there does not appear to be any existing Federal Land and Water Conservation Fund projects within 1000 feet of the site to be permitted.

Please check with the Grant Parish Council and City of Colfax to determine whether there are any parish facilities within 1000 feet of the proposed site. If you have any questions concerning this matter, please contact Suzette S. Simms (225 342-8088). Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Cleve Hardman".

Cleve Hardman
Director Outdoor Recreation
Office of State Parks
SSS:sss

attachment

Fax Cover Sheet

Date: _____ Number of Pages (including this cover): _____

To: CAROLYN MILLER Organization: ECO SCIENCE

Phone: 755-8844 Fax: 755-8845

From: WENDY LOVEACE

USGS Louisiana Water Science Center Organization: Water Resources Division

Phone: (225)298-5481, ext. E-mail:@usgs.gov

Message:

G-392 (GATHERS LOG FOR G-293)

393

WATER QUALITY FOR BOTH

WENDY LOVEACE

The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

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U.S. Department of the Interior
U.S. Geological Survey

Punched and Verified

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Recorded by J.L. SniderDate 8-26-76Check One ☒ English ☐ Metric Units

GENERAL SITE DATA (0)

Site Ident No 3134121092434401 RG Number R-0 Transaction T- (A) D M V
 Site-Type 2- C D H I M P T (W) Data 3- (C) U L M Reporting Agency 4- U.S.G.S.
 Project No. 5- District 8- 22 State 7- 22 County (or town) Grant 8- 043
 Latitude 9- 31 34 12 Longitude 10- 109 24 34 Let-Long Accuracy 11- S F T M
 Local Number 12- G-393 Land Net Loc. 13- N.E.N.E.S.W. 24 T. 7N. R. 4W
 Location Map 14- COLIFAX 87 Scale 15- 62500
 Altitude 16- 1220.0 Method of Measurement 17- A L M Accuracy 18- 10
 Topo Setting 19- D C E F H K L P (S) T U V W Hydrologic Unit (OWDC) 20- 11140207
 Date of First Construction/Completion 21- 10/04/1973 Use of Site 23- A D E G H I M P R S (T) U W X Z
 Use of Water 24- A B C D E F H I M N (P) R S T U V Y Z
 Secondary Water Use 25- Tertiary Use of Water 26- Depth of Hole 27- Depth of Well 28- 75.00 Source of Depth Data 29- D
 Water Level 30- 33.00 Date Measured 31- 10/03/1973 Source 33- D
 Method of Measurement 34- A C E G H L M (R) S T V Z
 Site Status 37- D F G H I P R S T V X Z
 Source of Geohydrologic Data 36- D Pump Used 35- Measuring Point 266- Measuring Point Date 267- / /

OWNER IDENTIFICATION (1)

R-158 T- (A) D M Date of Ownership 159- 10/03/1973
 Name: Last 161- W.E.S.T. GRANT First 162- W.T.R. GRANT Middle Initial 163-

OTHER SITE IDENTIFICATION NUMBERS (1)

R-189 T- (A) D M Ident 190- N.O. 3 Assigner 191- OWNER
 New Card Same R & T Ident 190- Assigner 191-

SITE VISIT DATA (1)

R-186 T- (A) D M Date of Visit 187- 05/19/1976 Name of Person 188- SNIDER

FIELD WATER QUALITY MEASUREMENTS (1)

R-192 T- A D M Date 193- / / Geohydrologic Unit 195-
 New Card Same R thru 195 Temperature 196- 00.010 Degrees C 197-
 Conductance 198- 00.095 μ Mhos 199-
 Other (STORET) Parameter 196- Value 197-
 Other (STORET) Parameter 196- Value 197-

FOOT NOTES:

① Source of Data Codes:

S D G A R L G Z
 reporting, driller, owner, other geol., other log, geologist, other agency reported.

043-393

WELL CONSTRUCTION DATA (1)

R-58 * T- (A) D M * Entry No 58#0.0.1 * Date of Construction Completion 60-11-0/0.3/19.7.3 * Source of Const. Data 64-D *

Name of Contractor/Driller 53-STAMM-SCHUELE * Stamm-Schuele, Inc

Method of Construction 65- A B C D (H) J P R T V W Z *
 air, rotary, bored, cable, dug, hydraulic, jetted, air-per- cussion, reverse, trenching, driven, drive, wash, other

Finish 66- C F G H (S) P T W X Z * Type of Seal 67- B C G Z *
 porous, concrete, gravel w. port, gravel, screen, horizontal, open, and perforated, screen, sand point, welded, open, other hole, bentonite, clay, cement, other grout

Bottom of Seal 68- * Method of Development 69- A B C J N P S Z *
 air-lift, bailed, compressed, jetted, none, other, surged, other pump

Special Treatment During Development 71- C D E F H M Z *
 chemicals, dry ice, explosives, deflocculants, hydrofracturing, mechanical, other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R-72 * T- (A) D M * Construction Entry No 59# *
 add, delete, modify

Top of Hole Segment Below LSD 73# * Bottom of Hole Segment below LSD 74# * Diameter of Hole Segment 75# *
 73# * 74# * 75# *
 73# * 74# * 75# *
 73# * 74# * 75# *
 73# * 74# * 75# *

New Card for Each Hole Segment Same R, T & Field 59

CASING SCHEDULE (2)

R-78 * T- (A) D M * Construction Entry No 59#0.0.1 * New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD 77# 0.0.0 * Bottom of Casing Segment Below LSD 78# 6.5.0.0 * Diameter of Casing Segment 79# 6.0.0 * Casing Material 80# * Thickness of Casing 81# *
 77# * 78# * 79# * 80# * 81# *
 77# * 78# * 79# * 80# * 81# *
 77# * 78# * 79# * 80# * 81# *
 77# * 78# * 79# * 80# * 81# *

OPENINGS SCHEDULE (2)

R-82 * T- (A) D M * Construction Entry No 59#0.0.1 * New Card for Each Open Section With Same R, T and Field 59

Top of Section Below LSD 83# 6.5.0.0 * Bottom of Section Below LSD 84# 7.5.0.0 * (Openings Data) 85# * 86# * 87# * 88# * 89# *
 Type of Openings 85# R * Type of Material 86# R * Diameter of Open Section 87# 6.0.0 * Width of Opening 88# 0.18 * Length of Opening 89# *

FOOT NOTES:

① Source of Data Codes:

S O D A R L G Z
 reporting, driller, owner, other gov't, other logs, geologist, other agency reported

⑤ Casing Material Codes

B C G I M P R S T U W Z
 brick, concrete, gals, wrought, other, PVC or, rock or, steel, tile, masonry, wood, other iron iron metal plastic stone steel

④ Type of Openings Codes

F L M P R S T W X Z
 fracture, burred, wash, perforated, wire screen, sand, welded, open, other shattered or slotted around (and open) point hole

⑥ Type of Material Codes for Open Sections

B C G I M P R S T Z
 brass or, concrete, gals, wrought, other, PVC or, stainless, steel, tile, other bronze iron iron metal plastic steel

PRODUCTION DATA (1)

R=134 146 T= A D M Entry No 147# 001 Date 148- 05/19/1976

Discharge: 150- 150.00 Source of Data 151- 10

Method of Measurement 152- B C E F M O P R T U V W Z

Production Level 153- Static Level 154- Source of Data 155- Specific Capacity 272-

Method of Measurement 156- A C E G H L M R S T V Z Z Pumping Period 157-

LIFT DATA (1)

R=42 T= A D M Type of Lift 43# A B C J P R S T U Z Entry No 254# 001

Pump Intake Setting 44- 65 Type of Power 45- D E G H L N W Z

Date 38- 07/27/1976 Horsepower 46- 5.00

MAJOR PUMP DATA (2)

R=47 T= A D M Type of Lift 43# Lift Entry No 254# Manufacturer of Pump 48-

Serial No. of Pump 49- Name of Power Company 50-

Power Company Account No 51- Power Meter No 52- Pump Rating 53-

Person or Company Who Maintains the Pump 54- Additional Lift 255- Rated Pump Capacity 268-

STANDBY POWER DATA (2)

R=55 T= A D M Type of Lift 43# Type of Power 56- Horsepower 57- Lift Entry No 254#

AVAILABLE LOG DATA (1)

R=198 T= A D M New Card for Each Log Type Same R & T

Type of Log 199#	Begin Depth 200-	End Depth 201-	Source of Data 202-
199#	200-	201-	202-
199#	200-	201-	202-
199#	200-	201-	202-

WATER QUALITY DATA COLLECTION (1)

R=114 T= A D M Begin Year 115# 1973 End Year 116- Source Agency 117-

Frequency of Collection 118- Network Site 257- Type of Analysis 120- B

WATER LEVEL DATA COLLECTION (1)

R=121 T= A D M Begin Year 122# End Year 123- Source Agency 124-

Frequency of Collection 125- Network Site 258-

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R=127 T= A D M Begin Year 128# End Year 129- Source Agency 130-

Frequency of Collection 131- Network Site 259- Method of Collection 133- C E M U Z

OTHER DATA AVAILABLE (1)

R=180 T= A D M Type of Data 181# Loc 182- C D Z Format 261- F M P Z

New Card Same R & T Type of Data 181# Loc 182- C D Z Format 261- F M P Z

FOOT NOTES:

- Source of Data Codes: S D G A R L G Z
- Type of Log Codes: A B C D E F G H I J K L M N P O
- Frequency of Collection Codes: A B C D F I M B Q S W Z
- Type of Quality Analyses Codes: A B C D E F G H J K L M Z

WELL CONSTRUCTION DATA (1)

R-58 * T- (A) D M * Entry No. 59# 0.0.1 * Date of Construction Completion 80-1-0/0.3/19.73 * Source of ① 64-D *

Name of Contractor/Driller 63-STAMM-SCHHEEL * Stamm-Scheele, Inc

Method of Construction 65- A B C D (H) J P R T V W Z *
 Finish 66- C F G H Ø P (S) T W X Z *
 Bottom of Seal 68- * Method of Development 69- A B C J N P S Z *
 Special Treatment During Development 71- C D E F H M Z *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R-72 * T- (A) D M * Construction Entry No. 59# 0.0.1 *
 Top of Hole Segment Below LSD 73# *
 Bottom of Hole Segment below LSD 74# *
 Diameter of Hole Segment 75# *

CASING SCHEDULE (2)

R-78 * T- (A) D M * Construction Entry No. 59# 0.0.1 *
 Top of Casing Segment Below LSD 77# *
 Bottom of Casing Segment Below LSD 78# *
 Diameter of Casing Segment 79# *
 Casing Material 80# *
 Thickness of Casing 81# *

OPENINGS SCHEDULE (2)

R-82 * T- (A) D M * Construction Entry No. 59# 0.0.1 *
 Top of Section Below LSD 83# *
 Bottom of Section Below LSD 84# *
 Type of Openings 85# *
 Type of Material 86# *
 Diameter of Open Section 87# *
 Width of Opening 88# *
 Length of Opening 89# *

FOOT NOTES:

① Source of Data Codes:

S D B A R L G Z
 reporting, driller, owner, other gov't, other logs, geologist, other agency reported,

⑤ Casing Material Codes

B C G I M P R S T U W Z
 brick, concrete, galv. wrought, other, PVC or, rock or, steel, tile, coated, wood, other iron metal plastic stone steel

⑥ Type of Openings Codes

F L M P R S T W X Z
 fracture, downward, mesh, perforated, wire, sand, walled, open, other, slotted, or slotted mound (underground) point hole

⑦ Type of Material Codes for Open Sections

B C G I M P R S T Z
 brass or, concrete, galv. wrought, other, PVC or, stainless, steel, tile, other bronze iron iron metal plastic steel

Punched and Verified

SITE NO.

G-392
West Grant Water Assoc. No. 2

Recorded by J.L. Snider

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date Aug. 24, 1976

Check One ☒ English ☐ Metric Units

GENERAL SITE DATA (10)

Site Ident No 313452092431701 RG Number R=0* Transaction T=(A) D M V *
 add, delete, modify, verified
 Site-Type 2=C D H I M P T W * Reliability 3=(C) U L M * Reporting Agency 4=U.S.G.S. *
 collector, drain, sinkhole, connector, multiple, pond, tunnel or, well
 field checked, unchecked, location not, minimal
 Project No. 5= District 6=22 * State 7=22 * County (or town) Grant 8=043 *
 Latitude 9=131345.2 * Longitude 10=10924317 * Lat-Long Accuracy 11=S F T M *
 deg min sec deg min sec sec, 5 sec, 10 sec, Min
 Local Number 12=G-392 * Land Nat Loc 13=NESESE, 13 T 07 N R 04 W *
 1/4 1/4 1/4 section, township, range, meridian
 Location Map 14=COLFAX, 57 * Scale 15=625,000 *
 Altitude 16=1140.00 * Method of Measurement 17=A L (M) * Accuracy 18=1.0 *
 altimeter, level, map
 Topo Setting 19=D C E F H K L M N P S T U (V) W * Hydrologic Unit (OWDC) 20=11140207 *
 depression, stream, dunes, flat, hilltop, sink, swamp, alluvial, pediment, terrace, undulating, valley, upland, draw
 Date of First Construction Completion 21=10/04/1973 * Use of Site 23=A D E G H B M P R S T U (W) X Z *
 month day year snags, drain, geo- seismic, heat, observ- mine, all of, recharge, repres, soil, unused, with- waste, destroyed
 Use of Water 24=A B C D E F H I M N (P) R S T U Y Z * supply
 air cond., bottling, commercial, domestic, power, fire, domestic, irrigation, medicinal, industrial, public, recreation, stock, institution, unused, waste, other
 Secondary Water Use 25= * Tertiary Use of Water 26= * Depth of Hole 27=45.00 * Depth of Well 28=45.00 * Source of Depth Data 29=D *
 Water Level 30=7.00 * Date Measured 31=10/04/1973 * Source 33=D *
 month day year
 Method of Measurement 34=A C E G H L M R S (T) V Z *
 surface, calibrated, estimated, pressure, submersible, geophysical, manometer, reported, steel, electric, calibrated, other
 surface pressure gauge logs tape logs electric logs
 Site Status 37=D F G H M S P R S T V X Z *
 dry, flowing, nearby, nearby, obstruction, pumping, recently, nearby, nearby, foreign surface water other
 flowing, recently, recently, pumping, recently, substance effects
 Source of Geohydrologic Data 38=D * Pump Used 35= * Measuring Point 256= Measuring Point Date 267=
 no month day year

OWNER IDENTIFICATION (1)

R=158 * T=(A) D M * Date of Ownership 159=10/04/1973 *
 add, delete, modify month day year
 Name: Last 161=WEST, GRANT * First 162=W.T.R. Hesse * Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * T=(A) D M * Ident 190#ND, 2 * Assigner 191=OWNER *
 add, delete, modify
 New Card Same R & T Ident 190# Assigner 191=

SITE VISIT DATA (1)

R=186 * T=(A) D M * Date of Visit 187#05/19/1976 * Name of Person 188=SNIDER *
 add, delete, modify month day year

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * T=A D M * Date 193# Geohydro-logic Unit 195#112M6MR *
 add, delete, modify month day year
 New Card Same R thru 195
 Temperature 196#00010 * Degrees C 197=
 Conductance 196#00085 * μ Mhos 197=
 Other (STORET) Parameter 196# Value 197=
 Other (STORET) Parameter 196# Value 197=

FOOT NOTES:

① Source of Data Codes:

S D O A R L G Z
 reporting, driller, owner, other geol., other log, geologist, other
 agency reported

043-392

WELL CONSTRUCTION DATA (1)

R = 58 * T = A D M * Entry No. 59 # 0.0.1 * Date of Construction Completion 60-1.0/0.4/19.7.3 * Source of Const. Data 54-D *
 Name of Contractor/Driller 63-STAMM-SCHIELE * Stamm-Schiele, Inc.
 Method of Construction 65-A B C D H J P R T V W Z *
 Finish 66-C F G H Ø P S T W X Z * Type of Seal 67-B C G Z *
 Bottom of Seal 68- * Method of Development 69-A B C J N P S Z * Number of Hours in Development 70- *
 Special Treatment During Development 71-C D E F H M Z *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * T = A D M * Construction Entry No. 59 # *
 Top of Hole Segment Below LSD
 73 # * * * * *
 73 # * * * * *
 73 # * * * * *
 73 # * * * * *
 73 # * * * * *
 Bottom of Hole Segment below LSD
 74 # * * * * *
 74 # * * * * *
 74 # * * * * *
 74 # * * * * *
 74 # * * * * *
 Diameter of Hole Segment
 75 # * * * * *
 75 # * * * * *
 75 # * * * * *
 75 # * * * * *
 75 # * * * * *

CASING SCHEDULE (2)

R = 76 * T = A D M * Construction Entry No. 59 # 0.0.1 *
 Top of Casing Segment Below LSD
 77 # 2.0.0 *
 77 # * * * * *
 77 # * * * * *
 77 # * * * * *
 77 # * * * * *
 Bottom of Casing Segment Below LSD
 78 # 3.5.0.0 *
 78 # * * * * *
 78 # * * * * *
 78 # * * * * *
 78 # * * * * *
 Diameter of Casing Segment
 79 # 6.0.0 *
 79 # * * * * *
 79 # * * * * *
 79 # * * * * *
 79 # * * * * *
 Casing Material 80- * * * * *
 Thickness of Casing
 81 # * * * * *
 81 # * * * * *
 81 # * * * * *
 81 # * * * * *
 81 # * * * * *

OPENINGS SCHEDULE (2)

R = 82 * T = A D M * Construction Entry No. 59 # 0.0.1 *
 Top of Section Below LSD 83 # 3.5.0.0 *
 Bottom of Section Below LSD 84 # 4.5.0.0 *
 Type of Openings 85-R *
 Type of Material 86-R *
 Diameter of Open Section 87-6.0.0 *
 Width of Opening 88-0.1.8 *
 Length of Opening 89- * * * * *
 (Openings Data)
 83 # * * * * *
 84 # * * * * *
 85 # * * * * *
 86 # * * * * *
 87 # * * * * *
 88 # * * * * *
 89 # * * * * *
 (Openings Data)
 83 # * * * * *
 84 # * * * * *
 85 # * * * * *
 86 # * * * * *
 87 # * * * * *
 88 # * * * * *
 89 # * * * * *

FOOT NOTES:

① Source of Data Codes:

S D B A R L G Z
reporting, driller, owner, other geol't, other logt, geologist, other agency, reported,

⑤ Casing Material Codes

B C G I M P R S T U W Z
brick, concrete, galv, wrought, other, PVC or, rock or, steel, tile, coated, wood, other
iron iron metal plastic stone steel

② Type of Openings Codes

F L M P R S T W X Z
fracture, lowered, wash, perforated, wire screen, sand, walled, open, other
shut-in or slotted wound (unknown) point hole

⑦ Type of Material Codes for Open Sections

B C G I M P R S T Z
bram or, concrete, galv, wrought, other, PVC or, stainless, steel, tile, other
bronze iron iron metal plastic steel

PRODUCTION DATA (1)

R=134 146* T=(A) D M * Entry No 147# 10,01* Date 148# 0,5/1,9/1,9,7,6*
flowing, pumped add, delete, modify

Discharge: 150# 1,50,0,0* Source of Data 151# 10*
boiler, current, estimated, flume, installing, motor, piston-tube, reported, trajectory, venturi, volumetric, weir, other

Method of Measurement 152# B C E F M O P (R) T U V W Z *
boiler, current, estimated, flume, installing, motor, piston-tube, reported, trajectory, venturi, volumetric, weir, other

Production Level 153# * Static Level 154# * Source of Data 155# * Specific Capacity 272# *
driven, calibrated, estimated, pressure, geophysical, manometer, reported, steel, electric, saltwater, other

Method of Measurement 156# A C E G H L M R S T V Z * Pumping Period 157# *
driven, calibrated, estimated, pressure, geophysical, manometer, reported, steel, electric, saltwater, other

LIFT DATA (1)

R=42* T=(A) D M * Type of Lift 43# A B C J P R (S) T U Z * Entry No 254# 10,01*
add, delete, modify air, bucket, centrifugal, jet, piston, rotary, submersible, turbine, unknown, other

Pump Intake Setting 44# 4,2* Type of Power 45# D (E) G H L N W Z *
diesel, electric, gasoline, hand, LP gas, natural, windmill, other

Date 38# 0,7/2,7/1,9,7,6* Horsepower 46# *
month day year

MAJOR PUMP DATA (2)

R=47* T=(A) D M * Type of Lift 43# * Lift Entry No 254# * Manufacturer of Pump 48# *
add, delete, modify

Serial No. of Pump 49# * Name of Power Company 50# *
add, delete, modify

Power Company Account No 51# * Power Meter No 52# * Pump Rating 53# *
add, delete, modify

Person or Company Who Maintains the Pump 54# * Additional Lift 265# * Rated Pump Capacity 268# *

STANDBY POWER DATA (2)

R=55* T=(A) D M * Type of Lift 43# * Type of Power 56# * Horsepower 57# * Lift Entry No 254# *
add, delete, modify

AVAILABLE LOG DATA (1)

R=198* T=(A) D M * New Card for Each Log Type Same R & T

Type of Log 199# 10*	Begin Depth 200# 0,0,0*	End Depth 201# 4,5,0,0*	Source of Data 202# 10*
199# *	200# *	201# *	202# *
199# *	200# *	201# *	202# *
199# *	200# *	201# *	202# *

WATER QUALITY DATA COLLECTION (1)

R=114* T=(A) D M * Begin Year 115# 1,9,7,3* End Year 116# 1,9,7,3* Source Agency 117# *
add, delete, modify

Frequency of Collection 118# 1* Network Site 257# * Type of Analysis 120# 6* *Complete 10-12-73 (Curtis Lab)*

WATER LEVEL DATA COLLECTION (1)

R=121* T=(A) D M * Begin Year 122# * End Year 123# * Source Agency 124# *
add, delete, modify

Frequency of Collection 125# * Network Site 258# *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R=127* T=(A) D M * Begin Year 128# * End Year 129# * Source Agency 130# *
add, delete, modify

Frequency of Collection 131# * Network Site 259# * Method of Collection 133# C E M U Z *
calculated, estimated, metered, unknown, other

OTHER DATA AVAILABLE (1)

R=180* T=(A) D M * Type of Data 181# * Loc 182# C D Z * Formal 261# F M P Z *
add, delete, modify

New Card Same R & T Type of Data 181# * Loc 182# C D Z * Formal 261# F M P Z *
add, delete, modify

FOOT NOTES:

① Source of Data Codes:

S D G A R L G Z
reporting, driller, owner, other gov't, other logs, geologist, other agency reported

② Type of Log Codes

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
time, collar,	caliper,	driller's,	electric,	fluid,	geologist,	magnetic,	induction,	gamma,	dipmeter,	laterolog,	microlog,	neutron,	p. later,	photo,	radio-	active

S T U V Z
sonic, temp, gamma, fluid, other gamma velocity

③ Frequency of Collection Codes

A	B	C	D	F	I	M	Q	S	W	Z
annual,	bi-monthly,	continuous,	daily,	semi-	intermittent,	monthly,	one time,	quarter,	semi-	weekly, other

monthly only annual annual

④ Type of Quality Analyses Codes

A	B	C	D	E	F	G	H	J	K	L	M	Z
physical,	chemical,	trace,	pesticides,	nutrients,	minerals,	oxides,	oxides,	oxides,	oxides,	oxides,	all or, other	

B&O S&E S&F D&E C&D&E meet

WELL CONSTRUCTION DATA (1)

R-58 *	T- (A) D M *	Entry No 59 #10.0.1 *	Date of Construction Completion 60-1.0/0.4/19.7.3 *	Source of Const. Data 64-D *
Name of Contractor/Driller 63- STAMM-SCHUELL * Stamm-Schuele, Inc				
Method of Construction 65- A B C D (H) J P R T V W Z *				
Finish 66- C F G H B P (S) T W X Z *				
Bottom of Seal 68- * Method of Development 69- A B C J N P S Z *				
Special Treatment During Development 71- C D E F H M Z *				

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R-72 *	T- (A) D M *	Construction Entry No 59 #10.0.1 *
New Card for Each Hole Segment Same R, T & Field 59		
Top of Hole Segment Below LSD 73 #	Bottom of Hole Segment below LSD 74 #	Diameter of Hole Segment 75 #
73 #	74 #	75 #
73 #	74 #	75 #
73 #	74 #	75 #
73 #	74 #	75 #
73 #	74 #	75 #

CASING SCHEDULE (2)

R-76 *	T- (A) D M *	Construction Entry No 59 #10.0.1 *	New Card for Each Casing With Same R, T & Field 59	
Top of Casing Segment Below LSD 77 #	Bottom of Casing Segment Below LSD 78 #	Diameter of Casing Segment 79 #	Casing Material 80 #	Thickness of Casing 81 #
77 #	78 #	79 #	80 #	81 #
77 #	78 #	79 #	80 #	81 #
77 #	78 #	79 #	80 #	81 #
77 #	78 #	79 #	80 #	81 #
77 #	78 #	79 #	80 #	81 #

OPENINGS SCHEDULE (2)

R-82 *	T- (A) D M *	Construction Entry No 59 #10.0.1 *	New Card for Each Open Section With Same R, T and Field 59	
Top of Section Below LSD 83 #	Bottom of Section Below LSD 84 #	Diameter of Open Section 87 #	Width of Opening 88 #	Length of Opening 89 #
83 #	84 #	87 #	88 #	89 #
83 #	84 #	87 #	88 #	89 #
83 #	84 #	87 #	88 #	89 #
83 #	84 #	87 #	88 #	89 #
83 #	84 #	87 #	88 #	89 #

FOOT NOTES:

① Source of Data Codes:

S	D	B	A	R	L	G	Z
reporting agency	driller, owner, other gov't	other agency	logs, geologist, other reported				

⑤ Casing Material Codes

B	C	G	I	M	P	R	S	T	U	W	Z
brick, concrete, galv, wrought, other, PVC or iron	iron	metal	plastic	stone	rock or steel, tile, coated, wood, other						

⑥ Type of Openings Codes

F	L	M	P	R	S	T	W	X	Z
fracture, lowered, mesh, perforated, wire, shuttered	screen, sand, welded, open, other								

⑦ Type of Material Codes for Open Sections

B	C	G	I	M	P	R	S	T	U	W	Z
brass or bronze	concrete, galv, wrought, other, PVC or iron	iron	metal	plastic	stone	steel, tile, other					

UNPUBLISHED DATA
SUBJECT
TO REVISION

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
MULTIPLE STATION ANALYSES

PROCESS DATE 8-01-05

Local ident- ifier	Date	Geo- logic unit	Agency ana- lyzing sample, code	Depth of well, feet below surface foot LSD	Alti- tude of land surface	Cator, water, filtrd, pt-co united mg/L	Carbon dioxide, water, filtrd, mg/L	pH, water, unfiltrd, field, std units	Specif. conduc- tance, wat unf US/cm 25 degC CaCO3 (00095)	Hard- ness, wat unf field, mg/L as CaCO3 (00902)
G- 392	10-05-73	112UPTC	9801	45.0	119.00	.0	80	6.0	--	12
	10-12-73	112UPTC	9801	45.0	110.00	2	70	5.9	98	5
G- 393	10-05-73	122CTHL	9801	75.0	122.00	10	65	6.3	--	100
	10-12-73	122CTHL	9801	75.0	122.00	2	41	6.5	436	82

Local ident- ifier	Date	Calcium water, filtrd, mg/L	Magnes- ium, water, filtrd, mg/L	Sodium water, filtrd, mg/L	ANC, wat unf fixed end pt, field, mg/L as CaCO3	Bicar- bonate, wat unf fixed end pt, field, mg/L	Carbon- ate, wat unf fixed end pt, field, mg/L	Chlor- ide, water, filtrd, mg/L	Fluor- ide, water, filtrd, mg/L	Silica, water, filtrd, mg/L
G- 392	10-09-73	2.40	3.50	3	21.0	51	.0	15.0	2.3	41.0
	10-12-73	1.20	.40	5	25.0	34	.0	20.0	1.0	16.0
G- 393	10-05-73	25.0	9.50	4	81.0	101	.0	84.0	2.0	45.0
	10-12-73	18.0	9.00	3	68.0	80	.0	86.0	1.0	20.0

Local ident- ifier	Date	Sulfate water, filtrd, mg/L	Residue water, filtrd, mg/L	Residue on evap. at 105degC wat fil mg/L	Nitrate water, unfiltrd mg/L	Copper, water, filtrd, mg/L	Mangan- ese, water, filtrd, mg/L
G- 392	10-09-73	<1.0	108	85	--	0	<10
	10-12-73	1.6	81	98	.10	--	20
G- 393	10-05-73	17.0	302	280	--	0	<10
	10-12-73	36.0	277	287	.10	--	20

Remark codes used in this table:
< -- Less than
U -- Analyzed for, not detected

UNPUBLISHED DATA
SUBJECT
TO REVISION

Boxes 1-19 same as on Card 'A'

G-297

Driller: U. S. GEOLOGICAL SURVEY
 Test hole depth: 93 Pumpage: Hrs/day Days/week Weeks/year Average rate
 Accuracy Pumpage year Coefficient of Permeability: Field pH:
 Lithologic samples available: N Depth interval range: to Other data:

NOTES: ~~SEE G-233 ANALYSIS FOR G-233~~ Card designation: D *

~~G-233 AND LOG FOR LOPUS TEST G-259~~
 A NOTE ON G-392 SAYS TO SEE LOG OF G-297

LITHOLOGIC LOG

Lithology	Thickness	Depth	Aquifer or unit name
Clay, brown	12	12	CATAHOULA AT SURFACE
Clay, light gray	25	37	
Clay, light gray, silty (soft)	2	39	
Clay, light gray (may have become silty and or sandy about 49 ft)	13	52	CATAHOULA
Sand, silty to fine-grained	20	72	
Sand, medium	5	77	
Sand, medium to coarse	12	89	
Clay, black and dark blue	4	93	

Table 3.
Numerical Criteria and Designated Uses

A - Primary Contact Recreation; B - Secondary Contact Recreation; C - Propagation of Fish and Wildlife; D - Drinking Water Supply; E - Oyster Propagation; F - Agriculture; G - Outstanding Natural Resource Waters; L - Limited Aquatic Life and Wildlife Use

Code	Stream Description	Designated Uses	Criteria						
			CL	SO ₄	DO	pH	BAC	°C	TDS
101103	Bayou Kisatchie - entrance into Kisatchie National Forest to Old River (Scenic)	A B C F G	25	25	5.0	6.0-8.5	1	32	100
101201	Cotile Reservoir	A B C	50	25	5.0	6.0-8.5	1	32	200
101301	Rigolette Bayou - Headwaters to Red River	A B C F	25	25	5.0	6.0-8.5	1	32	100
101302	Iatt Lake	A B C F	25	25	5.0	6.0-8.5	1	32	100
101303	Iatt Creek - Headwaters to Iatt Lake	A B C F	25	25	5.0	6.0-8.5	1	32	100
101401	Buhlow Lake (Pineville)	A B C	100	50	5.0	6.0-8.5	1	32	250
101501	Big Saline Bayou - Catahoula Lake to Saline Lake	A B C	250	75	5.0	6.0-8.5	1	32	500
101502	Saline Lake	A B C	250	75	5.0	6.0-8.5	1	32	500
101503	Old Saline Bayou - from Saline Lake to Red River	A B C	250	75	5.0	6.0-8.5	1	32	500
101504	Saline Bayou - Larto Lake to Saline Lake (Scenic)	A B C G	45	10	5.0	6.0-8.5	1	32	165
101505	Larto Lake	A B C	45	10	5.0	6.0-8.5	1	32	165
101506	Big Creek - Headwaters to Saline Lake	A B C	45	10	5.0	6.0-8.5	1	32	165
101601	Bayou Cocodrie - from Little Cross Bayou to Wild Cow Bayou (Scenic)	A B C F G	250	75	5.0	6.0-8.5	1	32	500
101602	Cocodrie Lake	A B C	250	75	5.0	6.0-8.5	1	32	500
101603	Lake St. John	A B C	250	75	5.0	6.0-8.5	1	32	500
101604	Lake Concordia	A B C	250	75	5.0	6.0-8.5	1	32	500
101605	Bayou Cocodrie - Lake Concordia to Highway 15	A B C	250	75	5.0	6.0-8.5	1	32	500
101606	Bayou Cocodrie - Wild Cow Bayou to Red River	A B C	250	75	5.0	6.0-8.5	1	32	500
101607	Bayou Cocodrie - Highway 15 to Little Cross Bayou	B L	250	75	[13]	6.0-8.5	2	32	500
SABINE RIVER BASIN (11)									
110101	Toledo Bend Reservoir - Texas-Louisiana Line to Toledo Bend Dam	A B C D F	120	60	5.0	6.0-8.5	1	34	500
110201	Sabine River - Toledo Bend Dam to Confluence with Old River below Sabine Island Wildlife Management Area	A B C D	120	60	5.0	6.0-8.5	1	33	500
110202	Pearl Creek - from its origin to its entrance into Sabine River (Scenic)	A B C D G	120	60	5.0	6.0-8.5	1	33	500
110301	Sabine River - Confluence with Old River below Sabine Island Wildlife Management Area to Sabine Lake (Estuarine)	A B C	N/A	N/A	4.0	6.0-8.5	1	35	N/A
110302	Black Bayou - from boundary between segments 1103 and 1106 to Sabine Lake (Estuarine)	A B C	N/A	N/A	4.0	6.0-8.5	1	32	N/A
110303	Sabine Lake (Estuarine)	A B C E	N/A	N/A	4.0	6.0-8.5	4	35	N/A
110304	Sabine Pass (Estuarine)	A B C E	N/A	N/A	4.0	6.5-9.0	4	35	N/A

aquatic species consumed by humans, the department will calculate the in-stream concentrations of all applicable pollutants for which EPA has published human health criteria in the Quality Criteria for Water, 1986, EPA 440/5-86-001, or subsequent revisions. The permittee will be required to submit to the Office of Environmental Services, Permits Division sufficient effluent characterization data to make these calculations. For operational considerations, if dilution calculations show that after mixing, a suspected carcinogen would be present in the receiving waterbody at a concentration associated with a 10^{-6} risk level, in-stream chemical monitoring may be required of the appropriate dischargers. The department will list the waterbody as a priority waterbody and develop a wasteload allocation or make other consideration for it.

C. Options for Implementing Whole Effluent Toxicity Permit Requirements. The option or combination of options to be selected by the department from the following will depend on data availability at the time of permit application and on whether toxicity is known or suspected.

1. Option 1. Final whole effluent toxicity limits are included in the permit with an interim schedule for conducting toxicity reduction that begins upon issuance of the permit.

2. Option 2. The permittee will conduct whole effluent toxicity testing with pass/fail criteria that will trigger toxicity reduction efforts. A clause requiring this will be placed in the permit to take effect if the pass/fail criteria are exceeded when any toxic impact exhibited shows a statistically significant difference between the effluent sample and the control. If any toxicity test is failed, an opportunity for retesting will be given. When no toxicity is demonstrated or no toxicity criteria are exceeded, testing may be reduced for the remainder of the term of the permit. If any subsequent testing indicates toxicity, the permittee must revert to the more frequent monitoring schedule.

3. Option 3. No whole effluent toxicity limits are included in the permit. Limits based on MCLs and/or on protecting human health are included, or a schedule for their inclusion is incorporated into the permit.

4. Option 4. No whole effluent toxicity limits are included in the permit.

5. Option 5. A combination of the above four options may be applied.

D. References. The following references were used in developing or were cited in this Section.

1. U.S. Environmental Protection Agency. 1986. Quality Criteria for Water: 1986. EPA 440/5-86-001. Washington, D.C.: U.S. Government Printing Office.

2. U.S. Environmental Protection Agency. 1991. Methods for Aquatic Toxicity Identification Evaluations: Phase I, Toxicity Characterization Procedures. EPA/600/6-91/003. Washington, D.C.: EPA.

3. U.S. Environmental Protection Agency. 1991. Short-Term Methods for Estimating the Chronic Toxicity of

Effluents and Receiving Waters to Marine and Estuarine Organisms. 2nd Edition. EPA/600/4-91/003.

4. U.S. Environmental Protection Agency. 1991. Technical Support Document for Water Quality-Based Toxics Control. EPA/505/2-90-001.

5. U.S. Environmental Protection Agency. 1993. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. 4th Edition. EPA/600/4-90/027F.

6. U.S. Environmental Protection Agency. 1994. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. 3rd Edition. EPA/600/4-91/002.

E. Additional Toxicity Testing Guidance. The following references are cited as guidance documents that are used for biomonitoring:

1. U.S. Environmental Protection Agency. 1994. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates. EPA/600/R-94/024.

2. U.S. Environmental Protection Agency. 1994. Methods for Assessing the Toxicity of Sediment Associated Contaminants with Estuarine and Marine Amphipods. EPA/600/R-94/025.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2074(B)(1).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 15:738 (September 1989), amended LR 17:264 (March 1991), LR 20:883 (August 1994), amended by the Office of Environmental Assessment, Environmental Planning Division LR 25:2401 (December 1999), LR 26:2548 (November 2000).

§1123. Numerical Criteria and Designated Uses

A. Designated Water Quality Management Basins

	Table/Basin Number
Atchafalaya River Basin	(01)
Barataria Basin	(02)
Calcasieu River Basin	(03)
Lake Pontchartrain Basin	(04)
Mermentau River Basin	(05)
Vermilion-Teche River Basin	(06)
Mississippi River Basin	(07)
Ouachita River Basin	(08)
Pearl River Basin	(09)
Red River Basin	(10)
Sabine River Basin	(11)
Terrebonne Basin	(12)

aquatic species consumed by humans, the department will calculate the in-stream concentrations of all applicable pollutants for which EPA has published human health criteria in the Quality Criteria for Water, 1986, EPA 440/5-86-001, or subsequent revisions. The permittee will be required to submit to the Office of Environmental Services, Permits Division sufficient effluent characterization data to make these calculations. For operational considerations, if dilution calculations show that after mixing, a suspected carcinogen would be present in the receiving waterbody at a concentration associated with a 10^{-6} risk level, in-stream chemical monitoring may be required of the appropriate dischargers. The department will list the waterbody as a priority waterbody and develop a wasteload allocation or make other consideration for it.

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1. Option 1. Final whole effluent toxicity limits are included in the permit with an interim schedule for conducting toxicity reduction that begins upon issuance of the permit.

2. Option 2. The permittee will conduct whole effluent toxicity testing with pass/fail criteria that will trigger toxicity reduction efforts. A clause requiring this will be placed in the permit to take effect if the pass/fail criteria are exceeded when any toxic impact exhibited shows a statistically significant difference between the effluent sample and the control. If any toxicity test is failed, an opportunity for retesting will be given. When no toxicity is demonstrated or no toxicity criteria are exceeded, testing may be reduced for the remainder of the term of the permit. If any subsequent testing indicates toxicity, the permittee must revert to the more frequent monitoring schedule.

3. Option 3. No whole effluent toxicity limits are included in the permit. Limits based on MCLs and/or on protecting human health are included, or a schedule for their inclusion is incorporated into the permit.

4. Option 4. No whole effluent toxicity limits are included in the permit.

5. Option 5. A combination of the above four options may be applied.

D. References. The following references were used in developing or were cited in this Section.

1. U.S. Environmental Protection Agency. 1986. Quality Criteria for Water: 1986. EPA 440/5-86-001. Washington, D.C.: U.S. Government Printing Office.

2. U.S. Environmental Protection Agency. 1991. Methods for Aquatic Toxicity Identification Evaluations: Phase I, Toxicity Characterization Procedures. EPA/600/6-91/003. Washington, D.C.: EPA.

3. U.S. Environmental Protection Agency. 1991. Short-Term Methods for Estimating the Chronic Toxicity of

Effluents and Receiving Waters to Marine and Estuarine Organisms. 2nd Edition. EPA/600/4-91/003.

4. U.S. Environmental Protection Agency. 1991. Technical Support Document for Water Quality-Based Toxics Control. EPA/505/2-90-001.

5. U.S. Environmental Protection Agency. 1993. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. 4th Edition. EPA/600/4-90/027F.

6. U.S. Environmental Protection Agency. 1994. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. 3rd Edition. EPA/600/4-91/002.

E. Additional Toxicity Testing Guidance. The following references are cited as guidance documents that are used for biomonitoring:

1. U.S. Environmental Protection Agency. 1994. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates. EPA/600/R-94/024.

2. U.S. Environmental Protection Agency. 1994. Methods for Assessing the Toxicity of Sediment Associated Contaminants with Estuarine and Marine Amphipods. EPA/600/R-94/025.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2074(B)(1).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Water Resources, LR 15:738 (September 1989), amended LR 17:264 (March 1991), LR 20:883 (August 1994), amended by the Office of Environmental Assessment, Environmental Planning Division LR 25:2401 (December 1999), LR 26:2548 (November 2000).

§1123. Numerical Criteria and Designated Uses

A. Designated Water Quality Management Basins

	Table/Basin Number
Atchafalaya River Basin	(01)
Barataria Basin	(02)
Calcasieu River Basin	(03)
Lake Pontchartrain Basin	(04)
Mermentau River Basin	(05)
Vermilion-Teche River Basin	(06)
Mississippi River Basin	(07)
Ouachita River Basin	(08)
Pearl River Basin	(09)
Red River Basin	(10)
Sabine River Basin	(11)
Terrebonne Basin	(12)

aquatic species consumed by humans, the department will calculate the in-stream concentrations of all applicable pollutants for which EPA has published human health criteria in the Quality Criteria for Water, 1986, EPA 440/5-86-001, or subsequent revisions. The permittee will be required to submit to the Office of Environmental Services, Permits Division sufficient effluent characterization data to make these calculations. For operational considerations, if dilution calculations show that after mixing, a suspected carcinogen would be present in the receiving waterbody at a concentration associated with a 10^{-6} risk level, in-stream chemical monitoring may be required of the appropriate dischargers. The department will list the waterbody as a priority waterbody and develop a wasteload allocation or make other consideration for it.

C. Options for Implementing Whole Effluent Toxicity Permit Requirements. The option or combination of options to be selected by the department from the following will depend on data availability at the time of permit application and on whether toxicity is known or suspected.

1. Option 1. Final whole effluent toxicity limits are included in the permit with an interim schedule for conducting toxicity reduction that begins upon issuance of the permit.

2. Option 2. The permittee will conduct whole effluent toxicity testing with pass/fail criteria that will trigger toxicity reduction efforts. A clause requiring this will be placed in the permit to take effect if the pass/fail criteria are exceeded when any toxic impact exhibited shows a statistically significant difference between the effluent sample and the control. If any toxicity test is failed, an opportunity for retesting will be given. When no toxicity is demonstrated or no toxicity criteria are exceeded, testing may be reduced for the remainder of the term of the permit. If any subsequent testing indicates toxicity, the permittee must revert to the more frequent monitoring schedule.

3. Option 3. No whole effluent toxicity limits are included in the permit. Limits based on MCLs and/or on protecting human health are included, or a schedule for their inclusion is incorporated into the permit.

4. Option 4. No whole effluent toxicity limits are included in the permit.

5. Option 5. A combination of the above four options may be applied.

D. References. The following references were used in developing or were cited in this Section.

1. U.S. Environmental Protection Agency. 1986. Quality Criteria for Water: 1986. EPA 440/5-86-001. Washington, D.C.: U.S. Government Printing Office.

2. U.S. Environmental Protection Agency. 1991. Methods for Aquatic Toxicity Identification Evaluations: Phase I, Toxicity Characterization Procedures. EPA/600/6-91/003. Washington, D.C.: EPA.

3. U.S. Environmental Protection Agency. 1991. Short-Term Methods for Estimating the Chronic Toxicity of

Effluents and Receiving Waters to Marine and Estuarine Organisms. 2nd Edition. EPA/600/4-91/003.

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Appendix H:
Louisiana's Revised 2004 Section 303(d) List of Impaired Waters Requiring a TMDL

Subsegment Number	Subsegment Description	Type	Size	PCR	SCR	FWP	DWS	ONR	SFP	AGR	LAL	Suspected Causes of Impairment	IR Cat	TMDL Due Date	TMDL Priority	Year First Listed	Listed on EPA Consent Decree?
LA090204_00	Pearl River Navigation Canal below Lock No.3	R	16	F	F	N						Mercury	5	2008	3	1999	Y
LA090205_00	Wilson Slough-That portion of the slough lying within the boundaries of St. Tammany Parish (Scenic)	R	3	1	I	N		1				Mercury	5	2008	3	1999	Y
LA090206_00	Bradley Slough-That portion of the slough lying within the boundaries of St. Tammany Parish (Scenic)	R	5	1	I	N		1				Mercury	5	2008	3	1999	Y
LA090207_00	Middle River and West Middle River-From West Pearl River to Little Lake	R	16	F	F	N						Mercury	5	2008	3	1999	Y
LA090207_5112	Morgan Bayou - Headwaters near I-10 to confluence with Middle River	R	0			N						Mercury	5	2008	3	2004	
LA090301_00	Pushpalapa Creek-Headwaters and tributaries from the Mississippi state line to the Pearl River flood plain (Scenic)	R	34	N	N	F		F				Total Fecal Coliform	5	2008	3	2002	
LA090401_00	Bogue Lusa Creek-Headwaters to Pearl River	R	24	N	N	F						Total Fecal Coliform	5	2008	3	1999	Y
LA090501_00	Bogue Chitto River-From Mississippi State Line to Pearl River Navigation Canal (Scenic)	R	53	F	F	N		N				Mercury	5	2008	3	1999	Y
LA090501_00	Bogue Chitto River-From Mississippi State Line to Pearl River Navigation Canal (Scenic)	R	53	F	F	N		N				Turbidity	5	2008	3	1999	Y
LA090502_00	Big Silver Creek-Headwaters to the Bogue Chitto River	R	19	N	F	F						Total Fecal Coliform	5	2008	3	2002	
LA090505_00	Bonner Creek-Headwaters to the Bogue Chitto River	R	7	N	F	N						Total Fecal Coliform	5	2008	3	2002	
LA090506_00	Thigpen Creek-Headwaters to the Bogue Chitto River	R	19	N	F	N						Total Fecal Coliform	5	2008	3	2002	
LA100101_00	Red River-Arkansas State Line to Alexandria (La. Hwy. 165)	R	218	F	F	N		N			F	Color	5	2007	2	2004	
LA100201_00	Red River-Alexandria (La. Hwy. 165) to Old River Control Structure Diversion Channel	R	103	F	F	N		N				Oxygen, Dissolved	5	2007	2	2004	



Department of Environmental Quality

Statewide Water Quality Assessments

Red River-Arkansas State Line to Alexandria (La. Hwy. 165) LA100101_00

Overall Use Support
Water Body Type
Water Body Size
1999 Court Ordered 303(d)
List

Fully
River
218 Miles
YES
2000

When Assessed
Designated Uses

Agriculture
Drinking Water Supply
Primary Contact Recreation
Secondary Contact Recreation
Fish and Wildlife Propagation

Support

Fully
Fully
Fully
Fully
Not supporting

Suspected Causes of Impairment

➤ Mercury
➤ Metals
➤ Sulfates

Suspected Sources of Impairment

➤ Natural Sources
➤ Sources outside State Jurisdiction or Borders
➤ Source Unknown

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APPENDIX Z
SOIL MONITORING PLAN

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1.0 Introduction

On March 31, 1993 the Environmental Protection Agency (EPA) issued a RCRA Subpart X and HSWA Permit to R & D Fabricating and Manufacturing, Inc. for the operation of thermal treatment units. The treatment permit was issued subsequent to issuance of a storage permit by the Louisiana Department of Environmental Quality (LDEQ) regulating on-site storage of reactive waste. The full RCRA permit was developed under a joint permitting agreement between the EPA and the LDEQ. Ownership of the facility was subsequently transferred several times, and ultimately the facility became known as Clean Harbors Colfax, LLC in 2002 and currently continues to operate as Clean Harbors Colfax, LLC.

Attachment 15 of the original permit contains a Soil Monitoring Plan which addresses how Clean Harbors will monitor surface soil in the vicinity of the burner units. Since the permit was drafted, the location of the burn units has been changed slightly to take advantage of better topographic conditions and to better centralize the burn units within the property boundary. In addition, Permit Condition IV.C.7.a requires that the current monitoring plan be modified to incorporate additional information found in Permit Conditions IV.T.2.f-j and IV.T.3.f-j.

This revised monitoring plan addresses the additional information requirements and updates the existing plan to reflect actual conditions. The data generated from implementation of this plan can be used to supplement the ongoing environmental assessment over the initial operating period of the facility. This plan is intended to monitor the proposed burn area and will not address the existing burn area which will be evaluated during closure.

2.0 Sampling Protocol

The sampling protocol has been developed to address possible contamination down-wind from the proposed open burning areas as a result of particulate fallout. Analytical parameters include metals and organic compounds which may be present in the waste. The ongoing environmental assessment will address this situation through air quality modeling, thus providing an early indication of any potential problems. This sampling protocol is based upon waste constituent data, information already obtained through the trial burn process, and Agency concerns over deposition of heavy metals.

2.1 Constituents of Concern

The Final Technical Support Document for the R & D Thermal Treatment System (ENSR, 1991) contains a thorough description of the trial burn and soil sampling results associated with operation of the existing thermal treatment units. Soil samples, including background samples, were collected around the perimeter of the existing burners and were analyzed for extractable explosives as well as Appendix VIII organics and metals. Results showed low levels of HMX and RDX. Also, above background concentrations of eight (8) metals were detected and these metals are considered to be the constituents of greatest concern.

Based upon these results and the constituents in the waste streams handled at the facility, soil samples will be analyzed for the following constituents utilizing the listed method or other approved method:

Constituent	Analytical Method
Volatile Organic Compounds	SW-846, Method 5035, 8260B
Extractable Explosives (10)	USATHAMA (See App. A)
Total Metals:	
Arsenic	SW-846, Method 6010
Barium	SW-846, Method 6010
Cadmium	SW-846, Method 6010
Chromium	SW-846, Method 6010
Lead	SW-846, Method 6010
Mercury	SW-846, Method 6010
Selenium	SW-846, Method 6010
Silver	SW-846, Method 6010

2.2 Sample Locations and Collection Frequency

The optimum locations for the sampling areas were determined from surface wind direction data compiled at England Air Force Base in Alexandria, Louisiana, a location approximately 15 miles southeast of the Clean Harbors facility. Exhibit I

contains a wind rose generated from the wind data that was collected from 1980 through 1994. The predominate wind directions are from the north during the winter months and south during the summer. The southerly winds predominate, and, therefore, emphasis was placed on sample locations the north of the burner pad.

Figure I shows a total of 17 sample locations which will be used in the soil monitoring plan. Locations 1, 2, and 3 are background samples located in the extreme western portion of the property at 100-foot intervals. The minimal frequency of occurrence of winds from the east-northeast and the distance from the burn area makes this an ideal location for background samples. Locations 4, 5, and 6 are located south of the burn area and are approximately 1,000 feet apart. Six sample locations (#'s 7-12) have been placed north of the pad in a grid pattern approximately 600 feet apart. These locations will provide good coverage for monitoring of soil in the directions of prevailing winds with regard to the burn area.

Prior to operation of the proposed units, the facility collected surface samples from all the even numbered sample locations noted on Figure 1. These samples were analyzed for the constituents noted in Section 2.1, and the data were utilized in the development of a background data set for each constituent.

After one (1) year of operation of the new burner units, soil samples were collected from all locations and analyzed for the constituents outlined in Section 2.1. Background data from Samples 1, 2, and 3 were combined with the previous data in order to create a complete background data set for each constituent. Data will be analyzed as discussed in Section 4.1 in order to determine if there is a statistically significant difference between background and burn area concentrations of contaminants. If analytical results indicate a significant difference exists, the Louisiana Department of Environmental Quality (LDEQ) and the Environmental Protection Agency (EPA) will be notified. A plan to address these results will be developed at that time. If no significant increase is noted, the sampling frequency will be extended to two (2) years.

Surface soil samples will be collected directly from the surface sediments using decontaminated stainless steel spoons or a gloved hand to place the sample into the sample container. Sampling personnel shall wear a separate pair of disposable latex gloves for each sample collected. Sample containers will be prepared by the receiving laboratory and will be used as received from them.

3.0 Data Collection Quality Assurance

For all measurement parameters which have analytical QA objectives listed in the most current EPA or USATHAMA Method, those objectives will be used. Where alternative methods may be used by the contract laboratory, those methods and the QA objectives must meet or exceed standards contained in the EPA or USATHAMA method specified in Section 2.1. Systematic checks utilized by the laboratory will ensure data reliability.

The following information defines quality assurance activities in regard to the following”

- Strategy – Data Usage and Accuracy
- Sampling and Field Measurements
- Sample Analysis

3.1 Quality Assurance Strategy

The data collected from soil sampling and analyses will be used to determine if the thermal treatment units are impacting surface soil within the facility property boundary. If it is determined that surface soil is being impacted, measures can be taken to alleviate or minimize this impact.

The background and burn area analytical results will be analyzed statistically as discussed in Section 4.1. Analytical results for metals will be reported in parts per million (ppm) and for organics in parts per billion (ppb). These levels of detection will allow evaluation of data to determine if a significant difference exists between the background and burn area.

3.1.1 Data Precision and Accuracy

The terms used in this section which characterize data measurement reliability are defined below:

Accuracy – the degrees of agreement of a measurement (or an average of measurements of the same thing) X with an accepted reference or true value, $100 (X-T)/T$, and sometimes expressed as the ratio X/T . Accuracy is a measure of the bias in a system.

Precision - a measure of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions. Precision is best expressed in terms of the standard deviation. Various measures of precision exist depending upon the “prescribed similar conditions.”

Completeness – a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under current normal conditions.

Representativeness – expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.

Comparability – expresses the confidence with which one data set can be compared to another.

The precision, or degree of agreement between measurements, is determined by the standard deviation of a single measurement from the mean of the data set. Duplicates of the same sample will be analyzed by the laboratory as a routine precision check. In addition, one duplicate sample per sampling event, selected at random, will be analyzed as a check on sampling and analytical technique.

The accuracy of a sample measurement as reported as percent spike recovery which represents the percentage recovery of a known quantity of a compound which is added to the original sample and subsequently analyzed. The methods used in sample analyses will contain quality control audit standards, including sample spiking, to be implemented to ensure data reliability.

3.1.2 Quality Assurance Reports

The contract laboratory will prepare quality assurance documentation for all samples analyzed for each sampling event and will make this documentation available to the facility upon request. The level of detail will be sufficient to document all quality assurance activities specified by the method and shall include but not be limited to the following:

- Periodic assessment of measurement data accuracy, precision, and completeness;
- Results of performance audits;
- Results of systems audits; and
- Significant quality assurance problems and resolutions.

A summary of this documentation will be supplied to the facility and maintained in the data record. Summary information shall include, but not be limited to, percent spike recoveries and the analytical results for duplicate samples.

3.2 Sampling and Field Measurements

Sections 2.0 and 4.0 discuss sample locations, frequency, and statistical analysis to be conducted, including rationale for sample locations. The constituents of concern, analytical methods and measures to prevent cross contamination are also addressed. Additional procedures regarding handling of samples are discussed below.

All sample bottle preparation, sample preservation, and maximum holding times shall conform to the procedures described in the analytical method. Sample containers will be prepared by the contract laboratory and will be used as received. The contract laboratory will be responsible for disposing of all samples in accordance with local, state, and federal regulations.

Sample custody will be documented and maintained for all phases of sampling operations conducted at the facility. The following sections discuss both field and laboratory procedures which will be conducted to ensure the integrity of the sampling effort.

3.2.1 Sample Identification

All samples will be tagged with an identification label which shall be attached directly to the container. At a minimum, the following information will be placed on the label with a waterproof pen:

- Name of Sampling Organization
- Sample Identification Number
- Date
- Time
- Sample Type (i.e., grab, composite)
- Sampling Personnel
- Matrix (May be described by the sample ID#)
- Special Instructions or Precautions

As each sample is collected, a record will be made in the field notebook which further identifies the sample. All samples will be placed in containers and taken to a central staging area where they will be checked and recorded on a chain-of-custody form as described in the following section.

3.2.2 Chain-of-Custody Procedures

Chain-of-custody procedures provide documentation of the handling of each sample from the time it is collected until it is destroyed. To maintain a record of sample collection, transfer between personnel, shipment, and receipt and handling by the laboratory, a "Chain-of-Custody Record" will

be included with each sample shipment. This document will record pertinent information about each sample included in that shipment. Each time the samples are transferred to another custodian, signatures of the person relinquishing the sample and receiving the sample, as well as the time and date, will document the transfer.

Chain-of-custody records will have each sample identified with the station number, date, and time of collection, matrix, number of containers per station, and analytical constituents. Field forms will include copies so that one copy may be retained while the original and at least one copy are shipped with the samples. The facility will retain a copy of the chain-of-custody, and it will be maintained in the operating record for future reference. If samples are split to different laboratories, a copy will go to each laboratory. If additional sheets are required, the person relinquishing the samples is responsible for completing additional copies or making reproductions.

The chain-of-custody record will be placed in a protective cover and placed inside the shipping container. All samples will be shipped by the most expedient method to the specified laboratory. Samples will be packed so that no breakage occurs, and the shipping container will be sealed with evidence tape so that any sign of tampering will be easily visible.

3.3 Sample Analysis

Chain-of-custody, sample preparation, holding times, and analytical procedures have been addressed previously. Additional information regarding sample analysis is provided below.

3.3.1 Instrument Calibration

Each analytical instrument will be calibrated in a manner consistent with EPA calibration protocols and/or the contract laboratory's standard practice. Calibration documentation will be maintained by the laboratory.

3.3.2 Data Reduction, Validation, and Reporting

Data transfer and reduction are essential functions in summarizing information to support conclusions. It is essential that these processes are performed accurately and, in the case of data reduction, accepted statistical techniques are used.

At a minimum, example calculations must be included with the summarized data to facilitate review. The entry of input data and calculations should be checked and the signature or initials of the data

technician and reviewer(s) should accompany all data transfers with and without reduction.

Data input and output sheets will be used by the contract laboratory in order to keep track of data. These forms will record all information pertinent to the analytical procedure such as standard curves, QC data, and final results.

For routine analyses, sample response data information will be used to calculate the following as applicable:

1. Quadratic regression line for standards;
2. Coefficient of variation for replicates;
3. Spiked recoveries;
4. Reference sample concentrations; and
5. Sample concentrations.

QC criteria for acceptance will be derived from EPA or the contract laboratory's QC program. The QC criteria will be stored in a data management file for easy retrieval.

If the samples in a sample lot do not pass all the QC checks then the results reported in all samples processed in the same sample set must be considered as suspect and the analyses may need to be repeated. The laboratory QA Officer will be notified, and the necessary corrective action will be implemented.

The completed batch forms will be stored in files arranged for easy retrieval. Strip charts, copies of parameter notebooks, and QC charts will be stored for each constituent in a project notebook.

The contract laboratory manager will validate a portion of the all preliminary data by field group. Example tasks which may be included in the validation review are listed in the following checklist:

1. Were holding times met for each sample?
2. Were samples analyzed using the methods specified in the QA plan?
3. Was blank run for each batch and properly subtracted from each sample?
4. Were the required number of standards and spiked samples analyzed with each batch?
5. Was the correlation coefficient of the calibration curve >0.995 ?
6. Were spike recoveries within the acceptance criteria stated in the QC Plan?

7. Randomly select one value/batch and trace back through the calculations to the raw data. Do the numbers agree?

3.3.3 Internal Quality Control Checks

The contracted laboratory utilized by Clean Harbors Colfax, LLC for conducting analyses under this protocol will be accredited by LDEQ for the parameters being measured. In addition, the laboratory will adhere to a strict internal quality control program to assure data quality. Internal quality assurance procedures are designed to assure the consistency and continuity of data. Internal quality assurance procedures include the following:

- Instrument performance checks
- Instrument calibration
- Documentation on the trace-ability of instrument standards, samples and data
- Documentation on analytical and quality control methodology
- Documentation on sample preservation and transportation

Standard analytical quality control will include but not be limited to the following:

- Duplicate Samples
At selected stations on a random time frame, duplicate grab samples are collected. This provides a check of sampling technique and precision.
- Split Samples
A representative sub-sample from the collected sample is removed, and both are analyzed for the constituents of interest. The samples may be re-analyzed or analyzed by two different laboratories for a check of the analytical procedures.
- Spiked Samples
Known amounts of a particular constituent are added to an actual sample or to blanks in concentrations at which the accuracy of the test method is satisfactory. This method provides a proficiency check for the accuracy of the analytical procedures.

If a method allows, one to six compounds with characteristics similar to those being analyzed will be added to every sample prior to extraction. The percent recovery of these compounds is indicative of the efficiency of the analysis at recovering the sample compounds. A sample recovery within the range specified by EPA will be deemed sufficient.

Standards will also be run daily to ensure that numerical data reflects the current sensitivity of the instrument. Prior to any GC/MS analyses, the instrument will be tuned to meet particular specifications.

3.4 System Audits

Two types of audit procedures will be used by the contract laboratory to assess and document performance of project staff—system audits and performance audits. These are performed at frequent intervals under the direction of the Laboratory QA Supervisor. These audits perform the bases for corrective action requirements and constitute a permanent record of the conformance of measurement systems to QA requirements.

System audits are inspections of training status, records, QC data, calibrations, and conformance to Standard Operating Procedures without the analysis of check samples. System audits will be performed periodically on laboratory and office operations.

The system audit protocol is summarized as follows:

1. Laboratory Operations—The Laboratory QA Supervisor will check the following:
 - A. Parameter and/or laboratory notebooks;
 - B. Instrument logbooks;
 - C. Sample log-in, dispensing, and labeling for analysis;
 - D. Updating of QC charts of the spikes; and
 - E. Final approval of data from each sample lot.

In addition, the Laboratory QA Supervisor will monitor all experiments to assure complete adherence to approved analytical methods.

2. Final Reports—The Laboratory QA Supervisor will review all final reports and deliverables.

Performance test sample programs administered by various government agencies are also used as a basis for the Laboratory QA Supervisor's performance audit.

4.0 Data Management

Clean Harbors Colfax, LLC will implement these data management procedures in order to document and track analytical data. These procedures address the data record, the data presentation format, and project file requirements.

4.1 Data Record and Presentation

A data record will be maintained at the facility which contains chain-of-custody records, analytical results received from the third party laboratory, a statistical evaluation of the data, and a summary presentation of the data in tabular form. This information will be maintained as a distinct unit for each sampling event.

Data received from the laboratory will be required to contain the following information:

- A unique sample identification code which includes the sample location;
- Sampling personnel and date of collection;
- The constituent being analyzed and unit of measure; and
- Analytical results with the minimum detection limit.

The sample identification code used for soil samples will identify the matrix, specific location, month and the year as shown in the following example for location 9:

S09-0693

S = soil
09 = location 9
06 = June
93 = 1993

Duplicate samples or additional samples at the same location during each sampling event will have an additional designation as shown:

S09-0693A, S09-0693B, etc.

This unique sample identification code will be used to identify a particular sample on all presentations of the data.

All laboratory data will be summarized in tabular form for each sampling event. For each constituent, the sample identification code and concentration at each location will be noted. Any concentrations recorded as less than the detectable limit will have the lower detectable limit numerical value shown (i.e., < 0.1 mg/kg). The lower detectable limit will be established with the laboratory prior to

analyzing the first set of samples and will be in accordance with the method used, subject to possible interferences.

For each constituent, the background data set and the burn area data set generated after one year of operation was analyzed to determine the arithmetic mean and variance for each. The means for each data set were compared using the Cochran's Approximation to the Behrens-Fisher Students' t-test as outlined in 40 CFR Part 264, Appendix IV. A one-tail test using a standard t-table at a 0.025 level of significance will be used to compute the critical t value. Values recorded as less than the lower detectable limit numerical value will have that value applied in the statistical analysis.

A data summary showing the t-statistics for each constituent will be prepared in tabular form and maintained in the data record. If a constituent concentration is recorded as less than detectable for all sample locations, it will not be included in the statistical analysis summary table.

In the event that the burn area data set mean exceeds the background mean, additional methods of presenting the data may be used to further assess the data sets. These methods may include graphs showing constituent concentrations at a particular sample location over time or isopleth plots.

4.2 Data Files Maintenance

The analytical laboratory contracted by Clean Harbors will maintain data generated from soil analyses in a manner consistent with the particular laboratory's standard practice. Hard copies of the analytical data will be provided to the facility to be placed in the data record. As stated previously, the data record will also contain chain-of-custody forms, a tabular presentation of the raw data, a statistical evaluation and tabular presentation of the statistical analysis.

In addition to hard copies contained in the data record, the tabular presentations will be maintained on computer disks. These disks will be maintained at the facility with the data record. Also, the data tables and any summaries related to analytical results will be placed in the facility operating record.

5.0 Health and Safety Plan

Clean Harbors Colfax, LLC maintains a health and safety plan that covers all contractors working at the site. This plan is comprehensive and provides for the protection of all persons at the facility. Persons conducting soil sampling will not be in close proximity to the burn area and will be minimally exposed to storage areas. There will be no direct exposure to waste and exposure to soil will be minimized through Level D protection and the use of disposable latex gloves.

6.0 Project Management

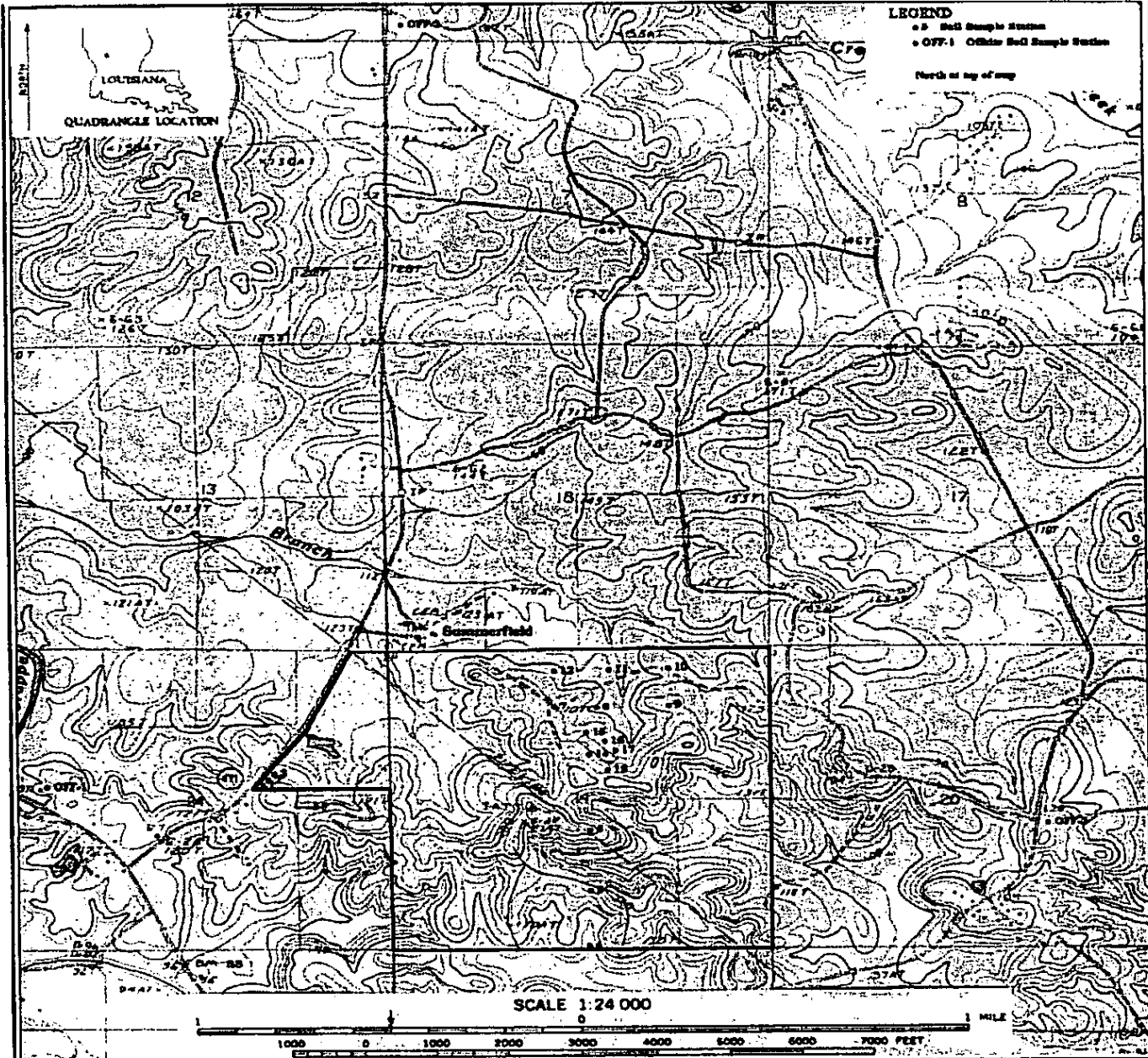
6.1 Key Personnel

The facility's General Manager, Jim Gallion, will have direct responsibility over implementation of the soil monitoring plan. He will be responsible for securing third party contractors, ensuring that provisions of the health and safety plan are followed, and maintaining data files and records. Mr. Gallion has vast experience in the waste management industry including employment as a health and safety officer at Louisiana hazardous waste treatment facility as well as experience handling explosive and reactive waste.

Kenneth Michels, facility Operations Manager, will share responsibility with the General Manager to ensure that soil monitoring is implemented at the facility in accordance with this plan. Mr. Michels has been the Operations Manager at the facility for a number of years and is thoroughly familiar with the operation. He has significant experience in handling explosive and reactive wastes, environmental affairs, and waste management, in general.

The facility will employ a third party contractor or other competent personnel for all sampling and analytical work. As stated previously, all analytical laboratory work will be conducted by a LDEQ accredited laboratory.

Figure 1
Soil Sampling Locations



SAMPLE POINT	LATITUDE (DEG-MIN-SEC)	LONGITUDE (DEG-MIN-SEC)	SAMPLE POINT	LATITUDE (DEG-MIN-SEC)	LONGITUDE (DEG-MIN-SEC)
OFF-1 Inter.	31:34:16	92:44:15	#7	31:34:30	92:42:51
OFF-2 Inter.	31:36:31	92:43:18	#8	31:34:30	92:42:45
OFF-3 Inter.	31:34:20	92:40:55	#9	31:34:31	92:42:33
OFF-1	31:34:13	92:44:15	#10	31:34:38	92:42:33
OFF-2	31:36:25	92:43:09	#11	31:34:37	92:42:44
OFF-3	31:34:19	92:40:53	#12	31:33:26	92:42:51
#1	31:34:15	92:43:33	#13	31:34:20	92:42:43
#2	31:34:16	92:43:39	#14	31:34:22	92:42:46
#3	31:34:17	92:43:40	#15	31:34:28	92:42:46
#4	31:33:49	92:42:46	#16	31:34:26	92:42:43
#5	31:33:59	92:42:46	#17	31:34:25	92:42:43
#6	31:34:09	92:42:46			

FIGURE 1

SOIL SAMPLE STATION LOCATIONS

Cham Harbors (COL/FAX), INC.

COLFAX, LOUISIANA



2828 Convention Street 2nd Floor Baton Rouge, LA 70802

File Name: chamHarbors.mxd

Project Number: 1993-001-0001

Date: August 2004

Author: Barry, Dave Crowlino

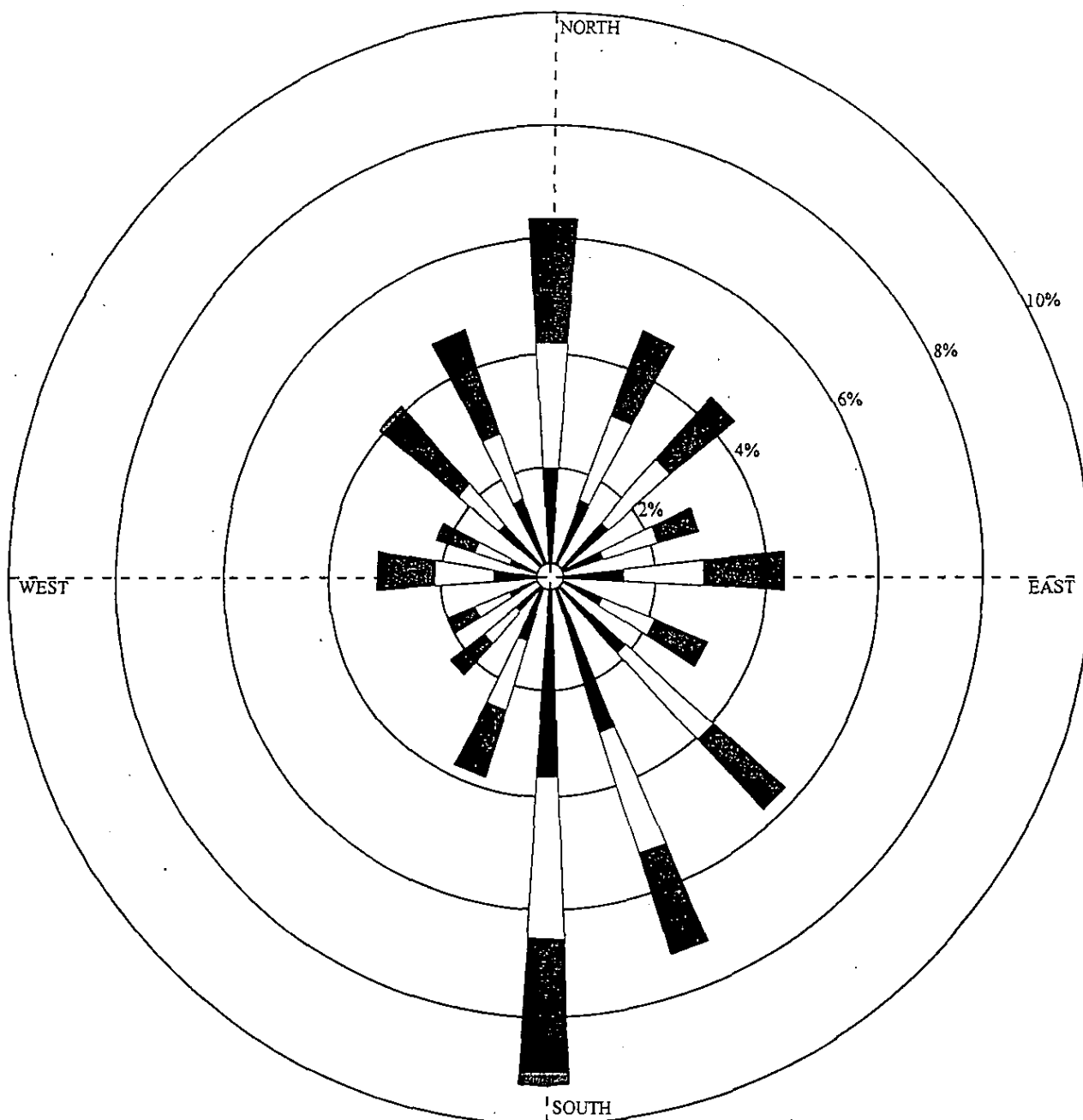
2004 USGS Open-File Map, LA 1203

Exhibit 1

Wind Rose

WIND ROSE PLOT

OBSERVATIONS IN - ENGLAND AFB/ALEXANDRIA INTERNATIONAL AIRPARK, LA



Wind Speed (Knots)



> 21

17 - 21

11 - 16

7 - 10

4 - 6

1 - 3

MODELER

EcoScience Staff

DATE

07/21/03

COMPANY NAME

EcoScience Resource Group

DISPLAY

Wind Speed

UNIT

Knots

COMMENTS

Source:

- Global Climatology Branch
- US AFETAC
- Air Weather Service

AVG. WIND SPEED

3.64 Knots

CALM WINDS

29.7%

ORIENTATION

Direction
(blowing from)

PLOT YEAR-DATE-TIME

1980-1994

PROJECT/PLOT NO.

Clean Harbors
Colfax, LA
Appendix 9